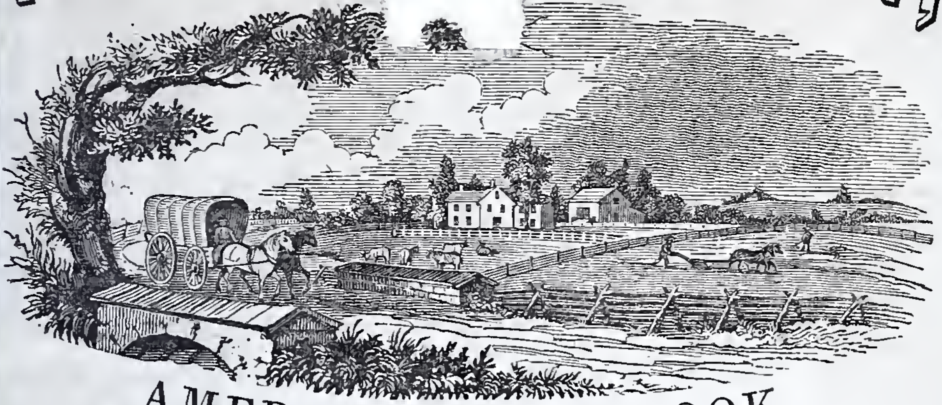
THE FARMERS' CABINET,



AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—Liebig.

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PUBLISHED MONTHLY,
BY JOSIAH TATUM,
EDITOR AND PROPRIETOR,
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For the Farmers' Cabinet.

On Churning Butter, &c.

To the Editor,—The production of good butter—and by this, I do not mean that which is only second rate—is an art which it is the ambition of every enterprising dairyman to attain. There is much excellent butter made in the vicinity of this city, and daily brought to our market: there is also, beyond dispute, abundance of a very different character—much that does not deserve the rank even of second rate, and which must necessarily be sold at a price far below the top of the market. This appears to me a serious loss to the maker, which it can surely not be necessary for him to submit to. There is, I am aware, a difference in the pastures of different neighbourhoods, and even of different farms in the same neighbourhood, that may give a somewhat different flavour to the butter of the respective dairies; but still I am greatly inclined to the opinion, that there is too widely operating among our dairymen—I would for obvious reasons, rather not write dairywomen—an inattention to the art of butter making—an indifference to the production of a first rate article, that is in itself inexcusable—that operates directly to the prejudice of the dairyman's interest, and compels too many of our housewives to use an article, which to say the least of it, it is impossible to praise.

Individual dairymen, or particular neighbourhoods, go on from year to year, to follow their own methods, which were pursued a generation or two ago, without ever dreaming that there may possibly be improvements, even in the art of making butter, or that their own method and that of their fathers, may possibly not indicate that they have attained perfection in the art. Butter, like honey, is a very delicate thing, and extremely sensitive to any extraneous substance with which it may be injudiciously brought in contact. I look occasionally into agricultural papers, and if it were not more like flattery than is pleasant, I would acknowledge I read none with so much interest as the Cabinet: I find in it, from time to time, many hints thrown out in relation to our subject, which it seems to me, might be very profitably practised upon, by our good friends who supply our tables with butter.

In confirmation of an idea expressed above, I might refer to John Ballantine, of Edinburgh, who has been an extensive dealer in Scotch butter, for five and twenty, or thirty years, and who declares it as his opinion, in the Transactions of the Highland and Agricultural Society of Scotland, that w exception of sweet butter made in the bourhood of Edinburgh and Glasgow has been rather a deterioration, than provement in the quality of Scotch butter, during the last quarter of a century. Now this to me is very extraordinary, inasmuch as we learn from various sources, that in Scottish husbandry there has been latterly a great improvement; so much so, that it has the credit of being superior even to that of their neighbours on the sunny side of the Cheviot hills. There has, however, been a decided improvement in the quality of the butter made of late years by the farmers around Edinburgh and Glasgow, which, it is said, is chiefly attributable to the method very generally adopted by them, of making the butter from the *entire milk*, by which, says the writer named above, "the dairy farmer is enabled to carry on his operations in a regular and systematic manner—to churn the milk at exactly the proper period—to regulate the temperature, and in short, to conduct the whole process upon certain principles."

Now the editor of the Cabinet need not be told, that the writer knows but little or nothing about those principles: I did not take up my pen with a view to give rules for making butter; that would be preposterous: my object has been to impress the dairyman with the value and importance of the article he brings to market, and to remind him that in his art,—although it be as old as Abraham, and the king of Egypt—as in most others, there have been, and are still improvements—and to assure him—which, no doubt, he is already aware of, that in the prosecution of this art, there are "certain principles," which if inquired into as they should be, and followed, will at any rate multiply his chances for the production of a superior article, and consequently for the obtaining of the highest market price. Every farmer will perceive that the difference of only two or three cents—and there is often a difference of five—in the pound, in the price of good and indifferent butter, in a dairy which makes twenty, or thirty, or fifty, or one hundred pounds per week, would at the end of the year, amount to a sum that would increase the profits, or diminish them very considerably.

The management of the milk and the cream, and the churn, is no doubt of primary consequence. Indeed it is said to have been fully proved, that butter is yielded in the largest quantity, and of the best quality, by churning the *entire milk*, that is, the milk from which the cream has not been separated. "It is equally certain," says Ballan-

milk must likewise be kept red a certain degree of acid- state also it affords the best —a point of great importance in a district where it meets with a ready sale." Butter thus made, we are told, is not only the best when fresh, but is also best calculated for long keeping in a sound state, when salted. In situations where there is not a sale for buttermilk, "this mode of churning, it must be admitted, will scarcely be as profitable as that from the cream, when, though the butter may not command the highest price, compensation will be made to the farmer by the cheese which may be made from the skimmed milk."

I believe the butter of this city will compare well with that of Boston, New York, or Baltimore, but as I have already said, much of it is susceptible of material improvement. If any thing shall be gathered from what I have written, that shall incite the farmer to make this improvement, I am sure he will be benefited as much as I shall be gratified. Anna B. L.

Philadelphia.

On the Preparation and Use of Manures.

BY WILLIS GAYLORD, OF OTISCO, N. Y.

[Concluded from page 151.]

Lime.—There is no substance, containing no animal or vegetable matter, which exercises a more powerful or beneficial effect than lime, in some one or all of its forms of carbonate, phosphate and sulphate. In the common form in which it is found, that of a carbonate, it acts in two ways, mechanically and chemically. Being less porous than sand, and more so than clay, its mixture improves soils in which either of these prevail; while as an alkaline earth, it acts chemically on such animal or vegetable matters as may exist in the soil. Lime develops its chemical action most fully when in its caustic state, or when by burning, the carbonic acid has been expelled, and the lime rendered what is termed quicklime. In this state, it dissolves such organic matter as may exist in soils, and prepares it for the food of plants. Humus frequently exists in the soil in a solid and insoluble state; lime applied to this, renders it soluble in water, in which form it may be taken up by the roots of plants. A vast deal of needless controversy has been carried on respecting the value of lime as a manure, or the quantity which should be used per acre. By some, it has been extolled as the very highest on the list of effective manures; while others have decried it as of no use whatever; and both have appealed to experiments as establishing their positions. A knowledge of the nature of the action of lime, would have prevented such seeming contradictions. "Lime in excess, forms, from the humus of the soil, an insoluble salt; and may thus, when applied to a soil abounding in salts of lime, or in which it already exists, be productive of injury, whatever may be the vegetable or organic matter of the soil. In this state of excess, lime converts, but at the same time locks up, the humus of the soil; when, if applied in the right quantity, it would have been useful. Lime is of no value whatever, as a converter, or produces no chemical effect in promoting growth, unless there is organic matter in the soil on which it can act. Lime is most efficient when used on soils full of insoluble humus, such as peaty matter or woody fibre, but which, from the abundance of the tannin principle contained, resist the ordinary processes of decomposition." There would seem to be no difficulty, therefore, in determining whether lime can be used on any given soil to profit. Indeed there are, it is believed, none where it would not be useful, except such as are already supplied with this carbonate, or those which are wholly destitute of vegetable or organic matter. As a general rule, the greater the quantity of humus in a soil, the greater the amount of lime which may be applied with benefit. As long as there is a store of organic matter in the soil, lime, if not in excess, is a valuable manure; but when this is exhausted, the application of lime only increases the sterility, by destroying such efforts at vegetation, as might in time, aided by light and moisture, partially remove the unproductiveness existing. This fact may serve to explain some of the conflicting statements that have appeared in the agricultural journals of our country, on the use of lime. Where humus is abundant, the quantity that may be safely used, is very great; on soils already poor, a small portion speedily exhausts the remaining powers of the soil. Lime, from its alkaline qualities, acts in neutralizing whatever free acids exist in soils, whether oxalic, phosphoric, malic, or others. It acts also in decomposing some of the earthy or compound salts formed in the soil, and thus renders the geine held by them, available to the plant; but its great and most important use is in converting the insoluble organic matters existing, into soluble ones, and thus directly furnishing an abundant source of nutriment. Carbonate of lime is sometimes used pounded or broken fine; and in this state, its mechanical value is great in stiff or clay soils. Such soils too, usually abound in acids; and these gradually acting on the lime gravel, its chemical effect is slowly but beneficially apparent.

Marl.—Marls, which exert so powerful an influence on many soils, derive most of their value from the lime they contain; and with few exceptions, their power as fertilizers may be measured by the per cent. of lime shown on analysis. There are some marls, however, which are an exception to this rule; their value appearing to depend on other matters than mere lime. Of this kind is the celebrated green sand marl of New Jersey, and some other points of the Atlantic coast. In this formation, which acts so powerfully as a manure, there is from six to ten per cent. of potash; an agent, which, on light soils, is scarcely equaled as a manure. In addition to the lime which marl contains, the influence of the proportions of sand and clay, of which the balance usually consists, must be taken into consideration in determining the value of this substance for particular soils. Thus, on heavy or clay lands, marls abounding in sand, will be found preferable to those the base of which is clay; and on light or sandy soils, the latter will be much the most useful, the per cent. of lime in both cases being alike. Marl should be spread over the surface, and pulverized by the action of air and frost, before it is ploughed under. When so treated, experience proves it is a most valuable manure, and a single dressing exerts an influence for many years.

Phosphate of lime.—Of another salt of lime, the phosphate, notice has been taken when treating of bones as a manure. It will not be amiss, however, to state here, that when any substance is invariably found in any part of a plant or plants, it is right to infer that the perfection of that part of the plant is impossible, unless the substance required, is within reach of the plant while growing. Thus the stems of the grasses abound in silex; some of them, the cane for instance, to such a degree as to strike fire with steel, and unless this substance, in the form of silicates, was presented to the plants, they would not be perfect. So it is right to infer, that unless soils contain the phosphates, or a supply is furnished for the us of plants, that the cereal grains could no be perfected, as the seeds of these invari contain large quantities of the phospha Phosphates are found more or less in soils, and when these are deficient, form an abundant and accessible sour their supply. It is also found in consi ble quantities in all animal and farm- manures, particularly in the liquid par

Gypsum or plaster.—Gypsum is th principal salt of lime which exerts a ful influence on plants, and is one of the most valuable of all our mineral fertilizers. Much variety of opinion has been entertained respecting the manner in which it exerts its influence or produces its effects on plants; and these opinions can scarcely be said to be harmonized, even at the present time. Davy was inclined to consider it a direct food for the plant, as it is found to some extent, in those plants on which it exerts the most power. Chaptal referred its power to its stimulating agency on plants, produced by its action when dissolved in water. Liebig ascribes its value to its giving a fixed condition to the nitrogen or ammonia which is brought into the soil, and which is indispensable for the nutrition of plants. Dana, to the action of the lime and acid of which the gypsum is composed, on the organic matter and silicates of the soil. He says:—"It seems almost incredible, that so minute a portion of a mineral can act at all; yet how beautifully is the result explained by the principle, that plants decompose first this salt; the lime, for plaster is a sulphate of lime, then acts on geine, which is thus rendered soluble; while the acid, the oil of vitriol or sulphuric acid, immediately acts on silicates." It seems very probable, that no single one of these suppositions will be found able to account in full for the action of plaster. That of Dr. Dana, appears to approach as nearly to a solution as any of them, if we extend his term silicates, so as to embrace those combinations formed by the union of the acid of the gypsum with ammonia, after its separation from the lime. If the action of plaster was due to its fixing ammonia alone, then it ought to be equally efficient at all times and places, which it certainly is not; or if it acted directly as nutriment, then its action would be as constant as that of rotted manure or compost, which farmers well know is not the case. Plaster does not act as usefully in the vicinity of the sea, as in the interior; and on heavy wet soils, is scarcely felt at all. Light sandy soils, or loamy ones, are those on which plaster acts the most sensibly; and clover, lucerne, potatoes, cabbages, and the eguminous plants, such as peas, vetches, .. are the vegetables on which it exerts tmost powerful influence. It is much ed as a dressing for wheat, not so much, aps, for its direct action on that plant, ugh that is not trifling, as for its effect uring and promoting the growth of lover and other grass seeds, usually, in it countries, sown with this crop. So ard is the influence it exerts in this rech that plaster, clover, and wheat, are fro associated in the mind of the most successful wheat growers; and its use is the most extensive in the best wheat growing districts of our country. In the minds of many, a senseless prejudice has existed against plaster, on the ground that it the more speedily exhausts the soil, and that the heavy crops at first obtained, were the price of ruined farms. It is doubtless true, that the man who uses plaster on his farm, who takes from his soils all he can get, and returns nothing to them, will soon find his soils worthless enough. He who intends to farm it in this way, should avoid plaster; but let any farmer alternate wheat and clover; husband and apply his manures; feed off his clover in his fields, or to his stock in their stalls; let him not spare his grass seeds in seeding, or his plaster in dressing, and his farm will never run down. Such a man need not fear plaster.

Salt.—Common salt is an active and valuable manure, and has been used successfully as such, in all parts of the world where it can readily be obtained. In England, the pickings or impure salt, is used for this purpose; and many experiments are on record, to show that the effect is most marked and decisive. The following is one of a series of experiments instituted by Mr. Sinclair, to test the value of salt as a manure. The soil was light and gravelly.

No. 1. Soil without any manure for 4 years. Produce per acre, 13 bushels 26 lbs.

No 2. Soil manured with stable dung to the previous crop, (potatoes.) Produce per acre, 26 bushels 52 lbs.

No. 3. Soil with five bushels of salt per acre, and no other manure for 4 years. Produce per acre, 26 bushels 12 lbs.

In the opinion of Mr. Sinclair, the effect of salt as a manure was to lessen the produce of straw as compared with other manures, and to increase the weight of the grain.

Prof. Johnston has done more than any other person to extend the use of salt as a manure, by giving to the world his excellent Essay on salt used on soils, and the mass of experiments he has recorded. It appears that salt in small proportions, promotes the decomposition of animal and vegetable substances; that it destroys vermin and kills weeds; that it is a direct constituent of some plants, and therefore necessary to their perfection; that all cultivated plants of marine origin contain it, asparagus for instance; and that all such succeed better when watered with salt water, than when deprived of it; that salt preserves vegetables from injury by sudden transitions in temperature, salted soils not freezing as readily as those to which salt has not been applied; and that it renders the earth more capable of absorbing the moisture of the atmosphere. When salt is applied as a manure, it may be used in quantities from six to fifteen bushels per acre; although some have gone as high as fifty bushels. Farmers, however, should be cautious how they venture on excessive doses, as an extravagant one could scarcely fail of being fatal to any crop. Legrand, in his experiments with salt, found that it gradually improved the crop of barley, until sixteen bushels per acre was reached, when it gradually diminished, until the amount of forty bushels per acre was reached, when vegetation was destroyed. Salt combined with manure, has proved very efficient; and in the Woburn experiments, the wheat so treated, exceeded all others. The most favourable proportions were found to be 45 tons of dung, and five and a half bushels of salt per acre; the manure ploughed in, the salt sown with the seed. The experiments that have been made, would seem to indicate that a preferable mode of using salt, in most cases, would be to sow it on the land some weeks before the seed is to be put in. In this case, where lime exists in the soil, a chemical change takes place, at least partially, and muriate of lime and soda is the result. Such a change would seem to be most favourable to vegetation.

Salt and Lime.—Salt and lime, artificially mixed as a manure, promise to be a valuable aid to the farmer in those positions where the soil abounds with insoluble silicates or geine, and where other manures necessary to produce decomposition or fermentation, are not at hand. Prof. Johnston recommends a mixture of two parts of lime and one part of salt, the mixture to remain incorporated in a shady place, or covered with sods two or three months before using. Salt and lime should not be used immediately after mixing, as bad results are apt to ensue; but after being well mixed in a dry state, and lying as directed, it may be applied at the rate of thirty to sixty bushels per acre, either before or at the time of sowing. Mixed with soot, salt acts with great power on roots. Mr. Sinclair mixed six and a half bushels of soot with the same quantity of salt, and used the mixture on lands sowed to carrots. The result was, that unmanured land gave twenty-three tons of roots per acre, and the manured yielded forty tons per acre; and Mr. Cartwright found that where unmanured soil gave 157 bushels of potatoes per acre, 30 bushels of soot and six of salt, made it produce 240 bushels per acre. Dr. Dana furnishes so beautiful an explanation of the manner in which this manure acts, that it deserves a place entire: "By mixing quicklime with common salt, its soda is let loose, the acid combines with the lime, forming a soluble salt of lime, and so long as the soda remains caustic, it has no effect on the muriate of lime, but as soon as the soda becomes mild or carbonated, decomposition of the muriate of lime is produced, and the common salt regenerated. Commencing then with quicklime and salt, we pass to a soluble salt of lime and caustic soda, and from that to mild soda, and to carbonate of lime and the original salt. If these various changes take place in the midst of peat or geine, it is evident that the caustic soda acts upon the geine, and also evolves ammonia from that substance; secondly, that the muriate of lime, in its finely soluble state, insinuates itself among the particles of the geine; that the soda is also equally diffused, and that when the soda becomes carbonated, it produces an almost impalpable carbonate of lime throughout the whole mass, which, by its equal diffusion through the soil with the geine, acts upon the silicates, as has been heretofore explained." To produce these effects, Dr. D. directs to take one bushel of salt and two bushels of lime; to make the salt into strong brine, and with it slack the lime. Mix both well together, and let them remain ten days; then let them be well mixed with three cords of peat, shovelled well over for about six weeks, when it may be used. A quantity of salt sufficient to destroy all vegetation, may be applied to a soil with safety, when a few months are to elapse before the crop is to be put on; as the chemical changes which take place, partially neutralize its effect during this time. A small quantity mixed with the soil in each hill of corn, has been found to protect it from the wire-worm and the cut-worm; indeed, there is no substance that insects of all kinds more dread than salt. It is probable, therefore, that further experiments will show that not the least value of salt is to be found in its preventive properties against these depredators.

Charcoal.—Charcoal is a valuable manure, and applied directly to the soil in a pulverized state, produces excellent effects. It acts by rendering the soil more permeabl [illegible] to atmospheric air, by absorbing and retai[illegible] ing for the use of plants, the ammonia of th[illegible] atmosphere, or such as falls in showers; [illegible] rendering soils with which it is incor[illegible] warmer; and by furnishing a cons[illegible] ply of carbonic gas to growing plants [illegible] great productiveness of what are calle[illegible] hearths, or those places on which c[illegible] has been burned, has long been a [illegible] remark, but this has been commonl[illegible] buted to the ashes, burned earth, &c., on such spots, rather than the coal. The use of coal alone, however, shows that though these other matters are not without their value, the great additional fertility of these places is mostly owing to the coal. Immense quantities of this substance are wasted in the vicinity of forges, furnaces, smiths' shops, &c., which would be of great value, were farmers to collect such refuse or dust coal, and apply it to their farms. On heavy soils in Europe, it has long been customary to pare the surface, and burn the turf so collected, taking care to incorporate as much of the clay soil as will consist with the ignition of the turf. This burnt mass of clay and ashes is scattered over the ground, and is found to make a valuable dressing on such soils.

Other manures.—It is impossible to particularize all substances that may be used as manure. It is evident, from the definition first given, that they would embrace all animal matters without exception; all excrementitious secretions of animals, and all vegetable ingredients in one form or another, together with a few of the mineral salts, such as the alkalies, silicates, &c. Thus, oil-cake, bran, yeast, brewers' grains, putrid meat, in short any substance that can be classed under the above divisions of matter, may be useful as manures, and this fact should induce great caution in their preservation and application. Whatever may be the present condition of a particle of matter, if it has ever formed a part of an organic body, it can again become such under circumstances favourable to such a condition.

In the preceding rapid sketch of the principal substances valuable as manures, the best methods of preparation and use have also, to a considerable extent, been given. All then that would now seem necessary for the purpose of this Essay, is a condensed view of the principles laid down, with such incidental topics as have been passed over, but of which a notice appears necessary.

Preparation and use of stable manures.—As the common farmer must always rely on stable or farm-yard manure, as his principal means of fertilization and renovation of his soils, it is to these, to their preparation and use, that his attention must be principally directed. It is an important question for him to decide, whether he should apply his manure in a long state, that is, apply it fresh [illegible] stables and yards, before undergoing decomposition, or let it remain until the litter and straw have fermented and become [illegible] before using it. Some remarks on this topic have been made in the preceding [illegible], when treating of such manures, but its importance will justify their extension in this place. It has been said that rotted manure contains more geine or humus, weight for weight, than unrotted or fresh manure. This is probable; but to make this test decisive, equal weights of dung should be taken while fresh, one analyzed at the time, and the other when fermented and rotted. This course, it is believed, would show a result in favour of the unrotted. There can be no doubt, however, that straw, stable litter, &c., should be partially fermented before using, and the moisture necessary for the process should, if possible, be the urine of the animals or the drainings of the yards. Straw, in dung intended for a particular crop, is of little use unless the fermentation has far progressed; and a distinguished German farmer has asserted that he considered straw as of no consequence in manure, except as acting the part of a sponge to retain the fluid parts of the animal manures. There are some exceptions to this remark, as when straw is applied to heavy clay grounds before rotting. In this case, when ploughed under, it gives a degree of porosity to the soil, absorbs part of the moisture, and acts the part of a valuable amender, while it is eventually converted into a manure, or a source of carbonic gas. Where the unfermented dung of the yard or stable is applied to the soil, it should be covered at once by the plough, that the gases liberated in fermentation may not be lost, and that the moisture necessary for fermentation may be secured. When rotted or fermented, the covering is not of so much consequence, and it may, without loss, be scattered on the surface and mixed with it. If used without fermenting, it should be applied to hoed or summer crops, such as corn or roots, as these are in that state while the manure is at the height of its fermentation, when forcing manures are the most useful; but if applied to the smaller grains, they are most active when matter for the perfection of the seed, not the enlargement of the straw, is most needed, and the last is increased at the expense of the first. Taking all these circumstances into consideration, there can be little question that the most economical way of making and using manures, is to convert the stable and barnyard manure into compost, by the addition of peat, swamp muck, cleansing of ditches, wash of roads, leached ashes, or even common loam or earth, taking care, when the manure is wanted for heavy soils, that the earth used in the compost should be as light or sandy as may be; and where the soil is light, that the compost earth should be marly clay. Into such a compost heap, all weeds, straw, litter, animal matter of all kinds, night soil, &c., &c., may be thrown, and upon it all the wash of the yards and urine of the stables may be poured; and if the animal and vegetable matters as they accumulate, are kept covered and moist, the fermentation will go on successfully; the alkalies and salts of the animal matters will act on the vegetable part and saturate the earths used, and the whole will be converted into manure of the most valuable quality.

Preparation and use of compost.—The labour of preparing compost, it is true, is much greater than merely drawing it from the yard, but the quantity is so much increased, and the quality so much improved, that it is the most economical in the end. The only method that can compare with it, is to place these matters over the yard, and let them be composted or fermented in that place; but there will always be great waste in this way; and where turf or vegetable mold is used for composting with the animal manure, the compost heaps can frequently be made where they are to be used, and the labour of drawing materials greatly lessened. Bommer's patent manure is only compost made in a scientific and accurate manner, every part of the process so managed as to produce a perfect fermentation, without the loss of any of the valuable parts of the constituents used. From a knowledge of the processes employed by him, we are able to say that where his directions are followed, a powerful and valuable manure cannot fail to be produced. The fundamental principle upon which composts have been made, is that of impregnating the earths used in the process with the soluble salts and the gases, which, in the ordinary methods of rotting, are wholly or partially lost to the farmer. The discussions which have been carried on, as to the propriety or impropriety of burying manures in the soil, have arisen from not stating the kind of manure to be used. The solid and soluble parts of manures have a tendency to sink into the soil; the gases evolved in fermentation a tendency to rise. The true principle, then, is to bury the unfermented matters no deeper than is necessary to secure the moisture required for fermentation, while the fermented or decomposed dung, having no fertilizing gases to lose, may be mixed at once with the surface earth. Some of the greatest crops of Indian corn ever grown in the United States, have been produced by placing a heavy dressing of unfermented manure on turf land, and turning it under with the plough. The surface is then rolled to press the sod close upon the manure, and afterwards harrowed, to loosen the earth for the reception of the seed. Into each hill, a small portion of fully rotted manure or compost is put at planting. This promotes germination, gives the young plant a vigorous start, and by the time the roots have penetrated beyond this, active fermentation has commenced in the long manure, and thus fertilizing matters are furnished in the greatest abundance when most wanted by the plant.

Use of Lime.—Of the mineral manures used, lime, as has been already stated, is the most important, and under all its forms, is extensively used in Europe and in this country. The German farmers of Lancaster, Chester, and the adjoining counties of Pennsylvania, use lime more extensively than in any other part of this country. Considerable discussion has been had at different times as to the comparative value of limes that contain magnesia, or such as are free from it; but the value of lime as a dressing for soils, seems to be everywhere conceded in those districts where it has been used. It appears as the result of experience, that lime produces the best effect on what are called stiff loams, or loams inclining to clay, and in which a good proportion of decayed organic matter is found. It is found, too, that it operates more favourably on soils natural to oak and its kindred trees, such as walnut, poplar, &c., than on those where the beech, elm and maple, constitute the principal timber. It is singular that the richest limestone lands, as they are called from being based on this rock, are frequently those on which heavy dressings of lime operate like a charm. If used as a top-dressing, lime is usually applied to the sod in the fall; but the practice most approved, is to lime the corn ground in the spring, on the inverted sod. Manure is applied to the wheat crop after lime. The quantity of lime used varies much. There is no doubt it has sometimes been used in excessive quantities; and when used on soils nearly destitute of vegetable matter, can produce no good effect. On a medium soil, fifty bushels per acre, may be considered an abundant dressing; but three or four times that quantity is sometimes used. The best method of using lime, is to take it from the kiln, unslacked, and deposit it in heaps in the field where it is to be used, not more than three or four bushels in a place; and either slack it by pouring water over it, or, which is better, by covering each pile with earth, and letting them slack by the moisture thus furnished. When sufficiently fine, the earth and the lime are mixed by shoveling over, and the mass is then scattered over the land to be dressed. The soil should be well harrowed after the application of lime, to incorporate it more completely with the surface earth.

Necessity of manuring.—It is obvious that the manuring of a farm should only be limited by the ability of the owner. On a plentiful supply of manures, are depending the fertility of his soils, the amount of his crops, and consequently the extent to which his labour is rewarded. There is no expenditure on a farm, so safe as that for manure; and the labour required to increase it, is never labour lost; at least, if directed by an ordinary share of agricultural knowledge and skill. Every source of supply should be made available; nothing capable of fertilizing should be lost. The farmer who takes from his soil more than he returns to it, is surely impoverishing it; and if he escapes such a calamity himself, he leaves to his successors a worn out farm. If he returns as much as he receives, his farm will retain its original fertility only; but the true farmer will scarcely be content with this. To increase its fertility, and the amount and quality of the crop taken from the soil, should be the aim of the husbandman. This done, his labour is lessened, his profits are greater, his farm is worth more; nor must the pleasure arising from beautiful fields, golden harvests, fine animals, and accumulating prosperity, be omitted in making up our estimate of the advantages of successful culture. Manure may be a homely subject, but on its preparation and use every thing is depending. Without it, the deep green of our pastures, the golden yellow of our corn-fields, and the fine beef and white loaf of our tables could not exist. To the farmer, manure must be the first thing, and it must be the last thing; with it, he can do every thing; without it, nothing.

German Agriculture.

Abstract of the Agricultural description of the Manor of Lutzschena near Leipzig; by Maximilian of Speck, Baron of Sternburg, 1842; presented by the author, to "The Philadelphia Society for promoting Agriculture," under whose direction it has been translated.

Part I.—*Education of the Agricultural classes.*—The author desires to see the children of the country people instructed in practical agriculture, and a small lot to be given for this purpose to the schoolmaster of every village, &c.

Part II.—*General description of the Estate.*—Besides 3,800 acres* of hunting grounds, there are 418 acres of cultivated land, of which 271 acres are plough-land, 52 acres meadow, &c., on which are kept 800 to 900 sheep, 50 to 60 horned cattle, 28 to 30 horses, and 50 to 60 hogs.

It is situated in a well watered valley and a healthy climate, with a mean annual temperature of 50° to 52° Fahr. Minimum of rain, 20 inches; maximum, 40 inches: upper soil of the arable lands, a mild mixture of sand and loam; subsoil more sandy—meadows loamy.

Part III.—*Persons employed on the estate and buildings.*—Whole number, 136; 51 persons get each, besides wages, every week, one loaf of bread of 14 pounds weight;† 10 ounces of butter, and 40 ounces of cheese. Twenty-seven servants living in the farm buildings, consumed in the course of one year, 5,797 pounds of meat, valued at about 526 German dollars. A table of their meals for every day in the week, is given.

Pay of labourers.—A man receives in summer daily, six to seven groschen;‡ in winter, five to six groschen; a woman in summer, five groschen; in winter, four groschen, but nothing else. Barns are made to contain 2000 shocks of grain; each 180 cubic feet. Hay-lofts for 2,500 cwt. of hay, contain about 18 cubic feet. Spreading-floors for 15,000 scheffel of malt. Sheep-fold for penning 1,200 head of sheep, is 16 feet high. Pig-sties for 70 to 80 head, divided into fourteen partitions. For every breeding sow 30 square feet are allotted, and for each of the rest, 10 to 12 square feet. Cattle-stalls for 60 head; for every cow, 32 square feet are allowed; for every calf, 12 square feet. Horse-stables for 32 horses, allowing 36 square feet for each.

Part IV.—*Raising of grains and other vegetables.*—Of wheat, the white variety only is grown, as finding a readier sale, and yielding more straw. Grains of one year old, always used for seed-corn. Produce of 1840, sixteen-fold. Winter-rye is the principal grain grown, as giving the surest return, and yielding most straw; it succeeds best after clover. Produce 1840, eleven-fold; 1841, eleven and a quarter fold. Barley gave 1840, twenty-three-fold; 1841, sixteen-fold. The author made twice a trial with the highly recommended Himalaya barley; its yield was 1841, thirty-two-fold. Of oats, the Landhafer and the Augusthafer are usually grown; product 1840, nine and two-thirds-fold; 1841, fourteen-fold. Peas; product 1840, four-fold; 1841, eleven and a quarter fold. Their straw is a good substitute for hay, for the sheepfold. Of potatoes, the early (or Lerchenkartoffel) and late, or English (weisse kartoffel) are grown. The latter is the richest in farinaceous matter. Besides black vetches, red beets, turnips and cabbage are grown. Rape-seed was found to exhaust the soil too much; to require too much manure, and to yield too little straw. Red clover was found the most productive grass, giving 80 cwt. per acre. White clover also gave excellent pasture. Tables of the expenses of cultivation of the different grains, are given for one year, and of the profits thereof.

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* One Saxon acre is equal to 6.590 English square yards. An English or American acre, is equal to 4,840 square yards.

† 101.4 Leipzig pounds are equal to 112 pounds English, Avoirdupois.

‡ 24 Groschen are equal to one German dollar,—about 72 cents.

Bone-dust proved an excellent manure, but had to be given up, from the rise in the price of bones.

Meadows.—The hay is every evening raked together into wind-rows, and as soon as dried, is immediately brought in.

Hop-grounds containing 15,000 poles, with 135,000 plants, one half of which are [Saazer] early hops; the other half [Spalter] late hops. Hops admit every kind of manure with equal advantage. One hundred square feet are usually reckoned for ten pounds of hops; fifteen acres produced in 1840, 95½ cwt.; in 1841, about 64½ cwt. Prices of hops varying from 20 to 80 German dollars per cwt. Poles used are 25 to 30 feet high. The neat profits of the hop-grounds in the years 1838 to 1841, sixteen acres, about $1,300.

Part V.—*Management of the farm animals.*—One hundred head of sheep get yearly, six dresdner metzen[*] of salt. One hundred head of sheep gave 1841, 225 pounds of wool. Ewes to be well fed before the time of lambing, and their food ought not to be changed whilst they suckle their lambs. Ram-lambs to be separated from the ewes in the seventh month. Table of expenses for feeding sheep. Thibet goats and Brazilian goats yielded but two and a half to three ounces of hair per head, in one year.

Of cattle, the Swiss breed from the Oberland, in Bern, has been introduced. A bull measures from tail to forehead, nine feet five inches, and is six feet high. A cow is eight feet eleven inches long, and five feet nine inches high.[†] Calves new born, weigh 90 to 96 pounds. The author's experience seems to confirm that of other breeders, that the new-born calf weighs one-tenth of the weight of its mother; that it drinks almost one-third of its own live weight; and that a cow, when well taken care of, yields one-thirtieth of her live weight in milk. The food for the cattle is steamed, whence cows yield more and richer milk.

Here follow details of what a couple of horses are expected to perform in one day.

The sow represented on the plate, is from behind the ears to the tail, five feet six inches long, and behind, two feet ten inches high. They must be kept clean, and be fed regularly; they require good dry litter; warm styes; food tepid, not too thin; to be given in small portions; its kind to be changed often. Their dung is chiefly used for hops.

Part VI.—Trades attached to the Manor, consisting of the brewery, distillery, brick-kilns, mills, &c. From 1,200 pounds English white potatoes and 37½ pounds of barley-malt, 102 to 114 kannen of brandy are distilled.[‡]

Part VII.—*Accountant's department.*—Every servant entrusted with the keeping of tools or other things, has to keep a book of them, ready at all times for the insight of the overseer of the estate, and a part of his wages is kept back as surety, the amount of which he receives upon his leaving the manor, when all his things have been found right.

Part VIII.—Relates to the duties of the overseer of the estate, and conditions under which servants are engaged. The author concludes with recommending the establishment of institutions for improving servants and others, for guarding the younger children of the poorer classes, whose parents are obliged to pass the greater part of the day out of their houses.

The following is a list of the servants attached to the manor: 1st. Of those receiving a fixed salary and meals; the steward of the manor, or overseer, for guiding and inspecting the whole management of the agricultural concerns, the trades attached to the manor, and the accounts. The housekeeper, —usually the wife of the steward,—for the supervision of the dairy, the meals of the servants, the linen and beds, and the raising of the young farm stock. An accountant. A deputy-steward, for special inspection of the conduct and work of the servants, and of the barns and granaries. A gardener, with his assistant for the gardens of the manor. A hop-vintner, for the hop-grounds. A shepherd, who has several perquisites for himself, his wife and two servants, consisting of a small kitchen-garden, about three-quarters of an acre for potatoes, cabbage and turnips; two milch-cows, with the necessary fodder, and the requisite fuel; or in place thereof, fifteen German dollars. Twelve hostlers; two ox-tenders; one yard-servant; three cow-tenders; three maid-servants; one field-guard, who at the same time acts as a police-man; two smiths; one miller; two distillery servants.

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[*] 16 Dresdner metzen equal to one scheffel, equal to two and nine-tenths English bushels.

[†] Quantity of milk and butter not given, but the breed is known to be excellent. The Leipzig foot equal to 1.034 English.

[*] 72 Kannen equal to 16¾ English gallons

2nd. Of those receiving merely wages and bread, but no meals;—one brewer; three assistant brewers, engaged for the whole year; four ditto, merely during the brewing season; four coopers, engaged for the whole year; two ditto, for the brewing season.

3rd. Of those receiving merely wages, without either bread or meals;—one brick and tile-kiln man; two carpenters, for the manor-house; four to six day-labourers in the brewery in winter, and forty workmen in the kilns, during summer; six threshers, with their wives.

TABLE OF DIET FOR THE HOUSE-SERVANTS.

Monday morning.—Soup made of six quarts of milk, two handfulls of flour, three and a half pounds of bread, and of water.

Noon.—Soup as in the morning, and peas with fried bacon.

Evening.—Soup as in the morning; potatoes with smear-caze.

Tuesday morning.—Soup as on monday.

Noon.—Soup of carrots, or turnips, or boiled potatoes, or white cabbage, and half pound of meat per head.

Evening.—Soup as in the morning; mehlmuss, i. e. flour boiled with water, to the consistency of pulp, with fried bacon.

Wednesday morning.—Soup as on monday.

Noon.—Soup as on monday; husked barley with suet.

Evening.—Soup as on monday; potatoes and smear-caze.

Thursday morning.—Soup as on monday

Noon.—Soup with broth, sourcrout, or cabbage, or potatoes, or lentils, or beans, and half pound of meat per head.

Evening.—Soup as on monday; mehlmuss with fried bacon.

Friday morning.—Soup as on monday.

Noon.—Soup as on monday; dumplings with suet and onions, horse-radish or other boiled vegetables.

Evening.—Soup as on monday, potatoes and smear-caze.

Saturday morning.—Soup as on monday.

Noon.—Soup as on monday, mashed potatoes with fried bacon.

Evening.—Soup as on monday, mehlmuss with fried bacon.

Sunday morning.—Soup made of twelve quarts of milk, seven quarts of small beer, two pounds of flour, and of water.

Noon.—Soup with millet, or husked barley, or cabbage boiled with meat.

Evening.—Soup as on monday, sausage or bacon with salad, boiled fruits, &c., or millet, with bacon.

Feast-day; such as Christmas, Whitsuntide, &c.; morning—Coffee with sugar-candy; brown sugar never used.

Noon.—Soup with broth, vegetables and meat; roast meat with salad and fruits.

Evening.—Soup; millet boiled in milk, with butter poured over; or roast meat, or sausage-pudding, with salad or fruits.

At Christmas, Easter, Whitsuntide, Harvest-home, or Church-wake, each one receives a cake of six quarts of wheat flour, and at Shrove-tuesday, half a cake. Besides, each one gets two quarts of small beer per week. The smiths, the miller, distiller, cow-milker, gardener, hop-vintner, and field-guard, receive each one quart of small beer per day, and the miller and the smiths receive each besides, a pint of brandy per week.

For the Farmers' Cabinet.

Cause of, and Cure for hard times.

To the Editor,—I am one of the many, who have now and then been obliged to join in the common cry of *hard times*, and I may acknowledge, when I have done it, I have almost uniformly felt something rising in my throat, that made me chew my words, and confess to myself, though I did not like to confess to others, that I was in fact, the author of my own difficulties. I think I have not unfrequently been able to trace many of the embarrassments of my neighbours to their own movements, though I have not felt as if I dared to tell them so. I have often thought if I could write like you veterans of the quill, I would send a piece to the printer, setting forth how young folks often miss it in beginning the world, and how old ones are often led astray against their better judgments, by the persuasion of their children, who are apt to think it a fine thing to spend money, which they know nothing about making. The editor will allow it is a great affair for a man who would be honest, and who wishes to be comfortable, and never to have the fear of the sheriff before his eyes, to be always careful to *cut his coat according to his cloth.* Now the editor may say, and a thousand others may say, that this is none of my business. But excuse me, I am only thinking aloud. A great many young people make a grand error in first setting but, that keeps their nose to the grindstone all their lives, and they need not blame, but rather thank any one, who will tell them so. They begin wrong—at the wrong end of the chapter: they begin, not where their fathers did, but where their fathers left off, and where they themselves would be satisfied to leave off. Now, does not common prudence whisper, this is not right—that it will not ensure comfort, but lead to difficulty? Is it reasonable to expect to have reached the goal, without having run the race? If a young farmer—and it is for farmers I write—you townfolks can take care of yourselves—if a young farmer who is a tenant—or whose farm is mortgaged for a part of the purchase money, and who is in debt for his stock, &c., will ride in a fine carriage, when he ought to be content to ride in his cart—if he will wear a four or five dollar broadcloth, and his wife an expensive silk, when they ought both to have their linsey woolseys—if he will have his silver spoons, when he ought barely to have pewter, pray, who will respect him the more? do borrowed plumes give grace to the wearer? is it any other than a dead certainty, that he will not be able to stand it? that his perplexities will increase—that one wrong expenditure will follow another, till by and by, at a time of life, when if he had begun and kept on prudently, he might have had something snug laid by for a rainy day, he will find himself walking out at the *wrong end of the horn.*

> "Vessels large may venture more;
> Little boats should keep near shore."

There has unquestionably been too great a tendency in young people to live in a style, which their means would not warrant: this has been a source of abundance of perplexity; and in both young and old, a large proportion of the hard times has come from too strong a desire to *seem* rich, and from too great haste to *get* rich. I have long eaten my bread in the sweat of my face, and been what may be termed a plodding farmer: I am neither as rich as Girard, nor as poor as "Job's turkey." I take agricultural papers, and I read them, and encourage my boys and girls to do the same. The other day I came across a cure for hard times, which had been copied from the Boston Cultivator, and it seemed so much to the point of what I had been threatening to write about, that I now send it to the Cabinet, and feel pretty sure if it does no good, it will do no harm. There's many a one may lift a hint from it. I wish the Cabinet all the success it so well deserves. The article below, which I enclose, is worth more to every young beginner, than the price of a year's subscription. H. X.

Monmouth co., N. J.

I profess myself to be an honest farmer, for I can say that no man could ever charge me with a dishonest action. I see with great grief, that all the country is afflicted as well as myself. Every one is complaining and telling his grievances, but I find they do not tell how their troubles came on them. I know it is common for people to throw the blame of their own misdeeds on others, or at least to excuse themselves of the charge. I am in great tribulation; but to keep up the above character of an honest man, I cannot in conscience say that any one has brought my troubles on me but myself. "Hard times—no money," says every one. A short story of myself will show how it came to be hard times with me, and no money at the age of sixty-five, who have lived well these forty years.

My parents were poor, and they put me at twelve years of age to a farmer, with whom I lived till I was twenty-one. My master fitted me out with two stout suits of homespun, and four pairs of shoes. At twenty-two, I married me a wife—a very good young woman she was. We took a farm of forty acres on rent. By industry we gained fast. I paid my rent punctually, and laid by money. In ten years I was able to buy myself a farm of sixty acres, on which I became my own tenant. I then in a manner grew rich, and soon added another sixty acres, with which I was content. My estate increased beyond all account. I bought several acres of outland for my children, who amounted to seven, when I was forty-five years of age. About this time I married my eldest daughter to a clever lad, to whom I gave one hundred acres of land. This daughter had been a working dutiful girl, and therefore I fitted her out well and to her mind; for I told her to take of the best of my wool and flax, and to spin herself gowns, coats, stockings, &c.; nay, I suffered her to buy some cotton to make into sheets, as I was determined to do well by her. At this time my farm gave me and my whole family support on the produce of it, and left me one year with another, one hundred and fifty dollars, for I never spent more than ten dollars a year, which was for salt, nails, &c. Nothing to wear, eat or drink was purchased, as my farm provided all. With this saving, I put my money to interest, bought cattle, fatted them, and made great profit.

In two years after, my second daughter was courted. My wife says, "come, you are now rich; you know Molly had nothing but what she spun, and no other clothing has ever come into our house for any of us. Sally must be fitted out a little; she ought to fare as well as neighbour N.'s Betty." "Well, wife, it shall be as you think best. I have never been stingy, but it seems to me that what we spin at home would do." However, wife goes to town in a few days, and returns with a calico gown, a çalimanco petticoat, a set of stone tea-cups, half a dozen pewter tea-spoons—things that were never seen in my house before. They cost but little—I did not feel it—and I confess I was pleased to see them. Sally was as well fitted out as any girl in the parish. In three years more, my third daughter had a spark, and wedding being concluded upon, wife again comes for the purse; but when she returned, what did I see? a silken gown, silk for a hat, a looking glass, china tea-geer, &c., and a hundred other things, with the empty purse. Then followed family jealousies and quarrels—Molly ought to be fitted out as well as Betsy. Good homespun and cotton fixens were ruled as vulgar, and white feathers and silks must take their place; Sally's husband must speculate in stocks, backed by my endorsement; but he had all the fun of speculating, and I, all the miseries of paying. Then children came tumbling into the world, and Grand Pa must be their treasury department for all things needful. Nothing was heard but arrangements for journeys, balls, parties, and such like.

In about a year, Betty's husband made a mistake, and signed somebody else's name to a check, instead of his own—he was arrested and sent to jail, and I had to spend half of my hard earnings to get him out. Sally's husband died, after leaving a legacy of nine children, which, with the mother, I've got to support. Betty's eldest boy was trained for a doctor—took his degree, and sent his first six patients out of the world by improper treatment. For this he had to fly the land, leaving encumbrances to drain my purse. I could fill your paper with further particulars, but that might not be so agreeable to your readers. I will only say, in regard to hard times, let every man exercise the ability nature has given, in his proper and prescribed sphere—let contentment reign within his breast, nor envy reach its threshold. Regard not the apparent glitter of your neighbour, nor aim at an equality beyond your comprehension; live more to please yourselves, and less to please other people—be frugal, industrious, and just. Bring your ideas down to a proper level, nor let them be disturbed by bad example. So shall you avoid the mishaps I have experienced in family matters, and rejoice in old age over a life well applied.—*Boston Cultivator.*

For the Farmers' Cabinet.

How much Lime should be applied to an acre?

The use of lime and plaster on our lands, and the introduction of clover to our fields, have, I apprehend, been to the full as productive of benefit to Pennsylvania, as the root culture has been to England, and perhaps almost as much so, as the steam engine has been to the manufacturer. When forty or fifty years ago, Judge Peters, of this vicinity, and Cheyney Jefferies, and Philip Price, and Nathan Sharpless, and Isaac Coates, of Chester county, commenced the sowing of clover and the use of plaster, and were thus by example as well as precept, encouraging their neighbours and the farmers generally, to do the same, and were further urging them to avail themselves of the liberal provision made by nature for enriching their worn-out lands, in the exhaustless limestone quarries spread over our State, they little thought what an important ball they were putting in motion, and what an astonishing revolution they were aiding to bring about in the whole system of Pennsylvania farming. They lived however, long enough to see a great deal of this change, and of this improvement; and to observe the great amount of benefit derived from the enterprise and good judgment of three or four public spirited individuals. Without her lime, her plaster, and her clover, what would Pennsylvania farming now have been? would she have shown a population of a million and three-quarters? would she have held twenty millions of bushels of wheat and rye in her granaries—besides thirteen or fourteen millions of Indian corn in her cribs, and two and a half millions of tons of hay in her barns? We are often told that agriculture, like other things, is progressive; and so it is: but we may recollect—or those of us who are too young to remember, may have learned that previously to the use of lime, agriculture in this State, was barely stationary—it was almost retrograde. Here was a new starting point—here was a means of agricultural improvement, which, like the descending stone, gained every moment, an accelerating force; for every one knows, the more we avail ourselves of means for the improvement of our land, the more those means are multiplied, and they become the more available. Having made one field rich, it is much easier to make the second like it—and having made all your farm rich, it must be bad management that wont keep it so. But I am wandering from my object. Although lime is now universally used,—perhaps I ought to beg pardon of your correspondent, J. W. Van Leer, for saying so—yet the manner of using it, and the proper quantity to be applied, are points not so well settled. In England they put on two or three, or four hundred bushels per acre, and apply the larger quantity for the first dressing; while here, we think forty or fifty bushels a good dressing, and increase the quantity as the land is made stronger. The following article, from the third part of Johnston's Lectures, holds up some rather novel views to the Pennsylvania farmer, and I think it would not be misplaced or found uninteresting in the Cabinet.

"The quantity of lime which ought to be applied to the land, must vary with its quality, and with the conditions in which it is placed. Hence the practice in this respect, necessarily varies in every country and in almost every district. But a difference of opinion also prevails among practical men, as to whether that quantity of lime which land of a given kind may require, ought to be applied in large doses at long intervals, or in small quantities frequently repeated. The indications of theory in reference to this point, are clear and simple.

A certain proportion of lime is indispensable in our climate, to the production of the greatest possible fertility. Let us suppose a soil to be wholly destitute of lime—the first step of the improver would be to add to it this indispensable proportion. This would necessarily be a large quantity, and, therefore, *to land limed for the first time, theory indicates the propriety of adding a large dose.*

Every year, however, a certain variable proportion of the lime is removed from the soil by natural causes. The effect of this removal in a few years, becomes sensibly apparent in the diminished productiveness of the land. After the lapse of five or six years, during which it has been gradually mixing with the soil, the beneficial effects of the lime are generally the most striking; after this they gradually lessen, till at the end of a longer or shorter period, the land reverts to its original condition. *To keep land in its best possible state, therefore, the natural waste ought from time to time, to be supplied by the addition of smaller doses of lime at shorter intervals.*

Such is obviously the most natural course of procedure, and he who farms his own estate, and has therefore no strong inducement to do otherwise, will, on the first breaking up of new land, give it a heavy liming, and whether he afterwards retain it in arable culture or lay it down to grass, will at intervals of four to six years, give it a new dose of one-fourth to one-eighth of the original quantity. But local circumstances and customs interfere in many well-farmed districts, with this most natural treatment of the soil. In the county of Roxburgh, for example, on entering upon his farm, which he holds on a lease of 19 or 21 years, the tenant begins by liming that portion of his land which is in fallow, or in preparation for turnips, at the rate of 240 to 300 bushels of quick-lime per acre. A similar liming is given to the other portions as they come into fallow, so that at the end of his first rotation,—four or five years—the whole of his land has been limed at the same rate. He now continues cropping for three or four rotations—14 to 16 years—when, if he is sure of remaining on his farm, he begins to lime again with the same quantity as before. If he is to quit, however, he takes the best crops he can get, but incurs no further outlay in the addition of lime. His successor follows the same course—begins by expending perhaps £1000 in lime, and before he leaves at the end of his lease, has, by continued cropping, brought back his land nearly to the same state in which he found it.

In the district of Kyle and other parts of Ayrshire, again, lime is laid on—often when preparing for the wheat crop, either by ploughing in the second furrow, or by harrowing in with the seed—at the rate of 40 bushels of shells an acre, and this dose is of course repeated every four or six years, according to the length of the rotation. If we consider the probable difference in the soil and climate, the proportion of lime added in the two districts does not materially differ. In Ayrshire, from eight to ten bushels, and in Roxburgh, from ten to twelve bushels, are added for each year.* In both counties, however, many farms may be met with, in which the treatment of the land in this respect, differs from that which is generally followed.

In Flanders, a similar difference in the practice prevails in different districts. In some, the land is limed only once in twelve years; in others, every third, fourth, or sixth year, according to the length of the rotation. In the former case, from 40 to 50 bushels are applied per acre; in the latter, from 10 to 12 bushels every third year. In both modes of procedure, the quantity of lime applied, by the year, is nearly the same—between three and a half and four bushels per acre. These quantities are very much less than those employed in our island, but the soils are also greatly lighter, and the climate, as well as the general treatment of the land, very different.

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* According to General Beatson, (*New System of Cultivation*, 1820,) upwards of 100 bushels an acre, at a cost of £7. 16s., used to be applied to the clay lands of Sussex—on the fallow, before wheat—every four years This was 25 bushels per acre, for each year. In such lands as these, the saving in the article of lime alone, which would follow a judicious drainage, would be very great.

We may consider it, therefore, as a principle recognised or involved in the agricultural practice both of our own and of foreign countries, that nearly the same *annual* addition of lime ought to be made to the land, whether it be applied at long intervals or at the recurrence of each rotation. There is, therefore, on the whole, no saving in the cost of lime, whichever method you adopt. A slight consideration of the subject, however, may satisfy us that there is a real difference in the comparative economy or profit of the two methods.

Let us suppose two acres of the same clay land to be limed respectively with 200 bushels each, and that the one is cropped for twenty years afterwards without further liming, while the other at the end of every five years, is dressed with an additional dose of 40 to 50 bushels. In both cases the land would have attained the most productive condition in five or six years. Let us suppose that in this condition it produced annually a crop of—or equivalent in nutritive value to—30 bushels of wheat, and that on neither acre did a sensible diminution appear before the end of ten years. Then during the second ten, the crops would gradually lessen in the one acre, while, in consequence of the readdition of the lime as it disappears, the amount of produce would remain sensibly the same in the other acre. Suppose the produce of the former gradually to diminish from 30 to 20 bushels, during these ten years,—or that while the one has continued to yield 30 bushels during the whole period, the other has, on an average, yielded only 25 bushels during the latter ten years. If now the second large dose of 200 bushels, be added to this latter acre, the cost of liming both will have become sensibly the same, but the amount of produce or of profit from the two acres during the second ten years, will stand thus:—ten crops, of 30 bushels each, amount to 300 bushels. Ten crops, of 25 bushels each, amount to 250 bushels,—Difference in favour of frequent liming, 50 bushels per acre, *or nearly two whole crops every lease of twenty years.*

Thus it appears:

1°. That, according to the practice of different countries, the quantity of lime which ought to be added, and consequently the cost of adding it, is very nearly the same, whether it be applied in larger doses at longer intervals, or in smaller doses more frequently repeated.

2°. That, *after the first heavy liming*, the frequent application of small doses is the more natural method—and

3°. That it is also the most economical or profitable method.

It is possible that other considerations, such as the tenure by which your land is held, may appear sufficient to induce you to depart from this method; but there seems every reason to believe that it will best reward those who feel themselves at liberty to follow the indications at once of sound theory and of enlightened practice.

One thing, however, must be borne in mind by those who, in adopting the best system of liming, do not wish both to injure their land and to meet with ultimate disappointment. Organic matter—in the form of farm-yard manure, of bone or rape dust, of green crops ploughed in, or of peat, and other composts—must be abundantly and systematically added, if at the end of 20 or 40 years, the land in which the full supply of lime is kept up is to retain its original fertility. High farming is the most profitable—for the soil is ever grateful for skilful treatment—but he who farms high in the sense of keeping up the supply of lime, must also farm high in the sense of keeping up the supply of organic and other manures in the soil—otherwise present fertility and gain will be followed by future barrenness and loss. If this is not to be done, it were better to add lime at long intervals, since as the quantity of lime diminishes, the land begins to enjoy a little respite, and has had time in some measure, to recover itself—the cropping in both instances, being the same—before the new dose is laid upon its surface."

The idea held up in the last paragraph, is I think, an important one—indeed it is now generally considered so. The farmer who limes, if he would make his liming the most available, must also manure his land by the application of organic matter—that is barnyard manure, green crops, bone-dust, or something of a similar character: it will not do to depend upon lime alone. M. L.

Darby, Pa.

He that buys what he does not want, may soon want what he cannot buy.

Life in the Country.

We make the following extract from the Address delivered a month or two since, by C. T. Botts, editor of the Southern Planter, before the Henrico Agricultural Society, Va.—Ed.

"Nature is not so very bountiful, even in the *country*, as to require nothing of man. There, as elsewhere, every thing depends upon the manner in which he performs his part. If he can convert the wilderness into a garden, so also can his evil passions and bad habits lay waste the kindest gifts of Providence. I recollect, that during the last summer, I had occasion to make a little excursion into the country; and one day about noon, suffering from the oppressive heat of a burning sun, I sought at a little farm house, that refreshment to which a traveller is always welcome in this hospitable region of Virginia. As I approached the house, I met the ploughmen with their teams coming in to dinner. The style of the harness, the leather eked out, with a string here, and a grape-vine there, would have been sufficient, if the straggling fences had not already told the tale, to assure me, that the proprietor was, what is emphatically called, a *bad manager*. The yard was unenclosed; the house, ignorant of paint, was propped on one side, and much needed propping on the other; the porches were dilapidated, the blinds slouching, the panes broken, and the whole premises wearing an air of intolerable discomfort. The proprietor himself was sleeping on a plank, under the shade of a large tree, with his hat drawn over his eyes, and was the only thing upon the premises that seemed to be at its ease. I was received with the warmest hospitality, and kindly made welcome to every thing that the house could afford. I found that mine host was a shrewd, intelligent, lazy, goodnatured, good for nothing fellow. Although living almost without the comforts of savage life, he was still what might be called a man of substance—that is, he owned seven or eight hundred acres of land, such as it was, and twenty or thirty negroes—in short, his goods and chattels, if reduced to money, could not have yielded less than fifteen or twenty thousand dollars. If politeness had permitted, I should have liked to suggest to him, how much a little repair and paint would have added to the comfort and convenience of his family; how many elegant pleasures and delights, the work of his own hands could have afforded them, if he had only employed, in ornamenting and adorning his homestead, those hours he had spent upon that plank. But he, wise soul, had found out "exactly how it was," "nothing was to be made by farming in th country," and he had determined, as a panacea for all the ills of life, to remove to the West. My poor friend may change his climate, but I much fear he will never get rid of the bad habits which made the change necessary. This unfortunate gentleman was only the type of a class, that was formerly much more numerous than it is now, in Virginia. Indeed, a new source of extinction has lately appeared, which threatens to dissipate entirely this ancient and venerable race of farmers. Our Northern neighbours, with that sagacity for which they are remarkable, have discovered that there is no portion of the country, that offers such inducements to speculators, as the ancient seats of these old Virginians, whose sloth and extravagance force them to sell their birthrights for a song. These new comers have discovered the grand secret, which modern improvements in agriculture have revealed, that it is easier and cheaper to renovate an exhausted acre, than to bring a new one into cultivation. With this knowledge, with which their superior intelligence has acquainted them, they are well content to purchase the pleasant homes of the former occupants, and send them forth, wives, little children and all, to encounter the hardships and privations of a life in the wilderness. We welcome those enterprising strangers amongst us, for they make the wilderness to blossom as the rose, and set an example in husbandry, worthy of all imitation. Yet, it is a melancholy reflection, that for every recruit we gain in this way, some old settler has been driven from the home of his childhood, and forced to yield his household associations to stranger hands. May he prosper in foreign lands, and be taught that industry and economy, the want of which drove him from his own."

For the Farmers' Cabinet.

St. George's Ploughing Match.

Mr. Editor,—I consider the report of the St. George's, (Del.,) committee on ploughing—see p. 152, of Cabinet for December—by far the strongest recommendation of the Centre-draught plough of Prouty & Mears, that has yet appeared. Here was a congregation of ploughs, bright and sharp as file and grindstone could make them, all prepared for a start, on the broad ground of fair competition; but not one of them could be brought to face the Centre-draught plough until she had been crippled—perfectly stumped up with long service; with the coulter, perhaps, about an inch out of place and as thick as one's finger. There she was, brought into the field by a couple of small mules, and attended by every disadvantage; and then was the time for her competitors to triumph! This reminds me of the boy who, when he had been beaten by another lad, cried out, "Ah, I know I could beat him, if his eyes were knock'd out."

Hear what the committee say:—"The Centre-draught plough of D. O. Prouty, was not in a fit state for *fair* trial, having been much used, greatly worn, and very dull." And yet, the noble implement could not be prevented from taking a premium, after her eyes had been knock'd out! for she was awarded a copy of the Farmer's Cabinet for one year. I once knew a horse, which could never be overcome in the race, until his inhuman owner had consented to take a bribe and over-weigh him, by which his shoulder was slipped; the rider afterwards declaring, that even then, he found it harder to make him lose, than he had ever done to make him win. And well they might fear, seeing that she had beaten the winning plough three times in succession, and most of the others twice over, but a few days previous; compelling them to humble to her at Wilmington, Baltimore county, and Prince George's, Marlborough, and carrying off the three first premiums—a new plough, a silver goblet, and a silver ice spoon, with the greatest ease. Now I have no doubt the judges placed the ploughs according to their merits, but I would take leave to ask, where was the justice in bringing a plough forward for competition in so very unfit a state?

But all this must be rectified at the next meeting of St. George's Society, when just such a plough as that which took the above-mentioned premiums, and made such admirable work as that which is chronicled in the seventh volume of the Cabinet, page 190, by Mr. John Jones, will be exhibited under very different circumstances, and it is believed, with far different results. And will you, sir, oblige me by permitting the following extract from Mr. John Jones' account of the ploughing match at Port-Penn, on the 14th of May, 1842, to re-appear in your pages, and oblige your sincere friend,

James Pedder.

Dec. 25th, 1843.

P. S. Dr. Noble's extraordinary yield of wheat—see page 153, of Cabinet for December—is mainly attributable to the Centre-draught plough, with which the land for that crop was turned, by that best of ploughmen, Mr. James Bones, who, with a pair of horses, ploughed 15 acres in seven days; with a mass of vegetable matter growing on it, that bade defiance to every other plough in the country; Mr. Bones himself finding it impossible to go through it, until he had obtained the use of the Centre-draught plough of Mr. Philip Reybold, jr., which turned and buried the whole, so that not a vestige of it remained to be seen; a perfect *spade-labour business*. And it was on this occasion that Mr. Bones observed, if he had an interest in the plough, he would engage to sell 2,000 of them a year. J. P.

"Each of the ploughmen entered on his separate land, and all performed their work well: but the land ploughed by the Centre-draught plough, was the best done that I ever saw. It was ploughed hither-about, and so neat and true was the work performed, that if a line had been stretched across from the double furrow, and including it, there could not have been a variation of two inches, either in the width of the furrow, or height thrown, including also the clearing furrow, which was the best done in the whole; for so straight was the sod laid and evenly guaged, that the open furrow was just the width of the share and bar, and no more; and most elegantly finished. Notwithstanding all this, the judges gave the award to the Concave plough; alleging, that if the work had been done by the Centre-draught ploughman, it would have been better performed! A strange award indeed."

Signed, John Jones.

For the Farmers' Cabinet.

Fly Meshes.

The July number of the Saturday Magazine, describes a very simple method of excluding flies from apartments. The apparatus is so simple and cheap, that it may perhaps induce some of the readers of the Cabinet to make the trial and give the result publicity.

It is simply to suspend a net with meshes an inch square, made of light coloured thread, to the outside of the window, and although the meshes may be large enough to allow several flies with expanded wings to pass through at the same moment, yet from some inexplicable dread of venturing across the mesh-work, they will be effectually excluded. Or a substitute for a net may be employed, by stretching threads across both vertically and horizontally, and fastening to small nails driven into the window frame.

It is said to be much used in Italy, where from the heat of the climate, flies are very abundant and troublesome, and with perfect success.

For this plan to succeed, it is essential that the light enter the room *from one side only*, for if there be an opposite or side-window the flies pass through without scruple. Z.

For the Farmers' Cabinet.

Poudrette on Corn.

Mr. Editor,—I last spring made experi-nts in Kent county, Delaware, on Indian orn, with poudrette, manufactured by Mr. Minor. This concentrated manure was applied in its usual form, that of a coarse powder—dropped in contact with the seed at the time of planting, and in other cases thrown upon the hill after the corn had come up. The experiments were made in three different fields, all however, of very similar soil, namely, a light clay loam, greatly impoverished by long tillage, without the assistance of manure. In every instance the corn grew off with a rapidity, which made it the admiration of all who saw and compared it with that growing in the vicinity, even such as had received the help of other manure. The quantity applied was only a gill to each hill, or about ten bushels to the acre, and the product was in every case, at least double that on the adjacent ground. Where the application was made in contact with the seed, the corn proved the best. I have made arrangements for using this valuable fertilizer quite extensively on corn next spring, and shall also try it as a top-dressing for wheat, to be applied in March and April. To those especially, who reside at a distance from large towns, and are without other abundant sources of manure, the poudrette is a most valuable acquisition, as its concentrated form allows it to be transported at comparatively trifling expense.

Yours respectfully,
G. Emerson.

Philadelphia, Dec. 30th, 1843.

Measurement of Cream.

In our fourth number we gave a description and cut of Fry's Lactometer, prepared at the suggestion of a Committee of the American Institue, for testing the quality of milk, or ascertaining the amount of its adulteration by water, by comparing its specific gravity with that of water. In a late number of Johnston's Lectures, we find the following notice of an instrument for measuring the richness of milk, which we know, is generally estimated by the bulk of cream which rises to its surface in a given time.—Ed.

"For the purpose of testing this richness," says the Professor, "a simple instrument, dignified by the learned name of *galactometer*, or milk gage, has been recommended, and may often be useful. It consists of a narrow cylindrical vessel, or long tube of glass, divided, or graduated into one hundred equal parts. This vessel is filled up to one hundred with the milk to be tested, and at the end of twenty-four or thirty-six hours, the quantity of cream which has risen is estimated by the number of degrees of space which it occupies at the top of the milk. If it covers three degrees, the milk yields three per cent; if seven degrees, seven per cent of cream. This instrument, however, will give a result which will be generally less than the truth, because the cream will always rise slowly through five or six inches of milk; the smallest length which the instrument can conveniently be, and most slowly in the richest and thickest milk. Unless considerable care be taken, therefore, this milk gage may easily lead to erroneous conclusions in regard to the relative degrees of richness of different samples of milk."

From the Genesee Farmer.

Small Productive Farm.—I raised, the past year, from 30 acres of land, 700 bushels of potatoes, 80 bushels of barley, 25 bushels of beets, 15 bushels of wheat, 10 bushels of beans, 4 tons of mowed oats, 6 tons of English hay, 10 tons of meadow hay, 40 bushels of corn, 20 bushels of carrots, 75 chickens and turkeys, and a great variety of garden sauce.

I have killed one hog, weighing 390 lbs., made 400 pounds of butter, kept three cows, a pair of oxen, two heifers, two steers, eight sheep and 4 hogs. I have been on the plac but two years, and have laid six acres land to grass; the land a clay loam, easy work. I have no convenience for my hog to graze, neither do I believe it economy, fo the extra manure that can be made by yar ing them, will pay the extra feed. I lime with my compost, and plaster my potatoes and grass. I sort my potato fore sale, and by that means save half per bushel, which would be lost to me sorted. Finally, I cook every thing my hogs, and feed warm, and *keep w*

A. T. Per

Food and pasture for Cows.— same animal, says Johnston in his Le the quantity of milk is known to be influenced by the kind of food. best understood in the neighborhood c towns, where the profit of the dairy-ma pendent upon the quantity, rather tha the quality of his milk. Hence the of highly succulent foods—of the g irrigated meadows—of mashed and ste food—of brewer's grains—of turnips, toes, and beets—and of other simila getable productions, which contain water, intimately mixed with nutritive ter, and thus tend both to aid in the tion of milk, and to increase its quan

Guano.

Some late numbers of the Auctarium to Maund's Botanic Garden, contain a well written article on Guano, which we have concluded would be no less interesting to our readers, than it has been to the editor. There is little probability that this remarkable substance—be it what it may—whether the deposit of birds, or of volcanic origin—will come very considerably into use either in this country, or in England. The fact of its diminishing in quantity in Peru—its absolute necessity in the cultivation of many of the volcanic and sandy districts of South America, as well as the high price at which only it can be procured, will keep the supply in this country and in England very limited. A sample of the guano may be seen at this office. It is "a fine brown, or fawn coloured powder, emitting a strong marine smell." We have thought we recognize in its smell, something similar to that which we experience when first entering the enclosure of a menagerie. The experiments detailed below, have been prosecuted with great care and judgment, and unequivocally demonstrate the existence in guano, of a most powerful and effective stimulant to plants. The article will probably be concluded in our next number.—Ed.

So much has of late been said and written, about this celebrated manure, that inquiries become more and more frequent, regarding its intrinsic qualities, and the methods of best and most profitably employing it. Some use it in a liquid state; some, mixed with earthy ingredients; and others apply the pure guano alone. Some too, work it into the soil, either generally or partially; others apply it to the surface. Regarding quantity, the practice has been equally variable; guano having been used from one cwt. on an acre, even to ten. These discrepancies puzzle certain practical men, and induce them to reject that which is worthy of attention. These circumstances are, at present, inseparable from the subject; not alone because it is a newly-introduced article, but because we are all young in the knowledge of manures in general. The compounding of various manures together, is a subject of much importance; one that has scarcely been thought of, excepting a few of the rudest processes, which have been adopted without the guidance of a single idea as to the effect likely to be produced. It is well known that the drugs of the pharmacopœia greatly assist, or ameliorate, each other in their effects on the human body. So, also, is it of the food which we ourselves eat; and so it probably is with the food of living vegetables; but at present, in the science of the nutrition of vegetables, we, generally speaking, are merely empirics—knowing almost nothing of the "mode of operation" of the food of plants; even whether from the atmosphere or the earth, the vegetable collects the greater portion of the elements of its solids. It is, however, a gratifying fact, that rays of light are darting through the crevices of ignorance, and it cannot be doubted but that ere long, although we may not be walking in broad sun-shine, we shall be emancipated from the darkness which has so long invested this department of natural science. Liebig has risen as a star of the first magnitude; and promises, by his light, to guide us on our way to regions of comparative brightness.

Although our intention, in this place, is chiefly to bring together the leading practical facts which have been elicited by the use of a newly-introduced substance as a manure; still we cannot pass over the imaginings which naturally arise on approaching the subject; and these general observations may, we trust, the better prepare some of our readers, for carrying into successful practice, the experiments of their predecessors; although they may be unable to investigate those laws and processes essential to the development of organic nature.

The importance of attention to this subject will be better understood by looking through its effects. These are an increase of organic, out of inorganic, matter;—of vegetable, and hence animal, life, out of the inorganized substances of the earth. In regard to animal or vegetable life, Liebig's general remarks on nutrition are appropriate. He says, "The continued existence of all living beings is dependent on the reception by them of certain substances, which are applied to the nutrition of their frame. An inquiry, therefore, into the conditions on which the life and growth of living beings depend, involves the study of those substances which serve them as nutriment, as well as the investigation of the sources whence these substances are derived, and the changes which they undergo in process of assimilation. A beautiful connection subsists between the organic and inorganic kingdoms of nature. Inorganic matter affords food to plants, and they, on the other hand, yield the means of subsistence to animals. The conditions necessary for animal and vegetable nutrition are essentially different. An animal requires for its development, and for the sustenance of its vital functions, a certain class of substances which can only be generated by organic beings possessed of life. Although many animals are entirely carnivorous, yet their primary nutriment must be derived from plants; for the animals upon which they subsist receive their nourishment from vegetable matter. But plants find new nutritive material only in inorganic substances. Hence one great end of vegetable life is to generate matter adapted for the nutrition of animals out of inorganic substances, which are not fitted for this purpose." Hence, we recognize the necessity of vegetable life, before animal life can find support. On the third day of creation the Almighty clothed the earth with vegetables; He subsequently created animals to exist upon them.

We shall now bring under notice, numerous facts which have arisen out of the use of guano as manure; and from these, draw general conclusions for the guidance of future practice.

Some of our readers may not, however, be aware of the origin of this substance, therefore the history of an article which is now become so important in commerce, and so useful in rural economy, should be known. The Spanish author, Antonio di Ulloa, published his voyage to South America, in 1748, and in 1758 an English translation appeared, in which a clear statement of the benefits enjoyed by the Peruvians from the use of guano, may be seen. These statements seem to have been lost sight of, till the celebrated traveller and naturalist, Von Humboldt, visited South America, and further described its abundance, its qualities, and uses; and from whose account most that we know has been collected.

Its name, guano, or huana, in the language of central Peru, signifies manure; and, from the existence of this substance over a certain district of that country, chiefly included between the fifteenth and twentieth degrees of south latitude, several places have taken their names. Guano is not, by any means, a newly-discovered manure; its use, amongst the Peruvians, in the culture of maize and capsicums, on their sandy plains, is traced back five or six hundred years; and, without it, cultivation there would seem to be useless,—the land would be a mere arid expanse. Hence a regular trade between the guano islands of the South Sea, and the coast of Peru, has for centuries past existed. A vessel employed in this trade, is called a guanero, and so offensive is the effluvia arising from it, that it produces nausea and sneezing in the passengers of a ship merely sailing near it. Indeed, one small island, expressly called Islan di Guano, is said to emit so intolerable a stench, that vessels are deterred from approaching its shores.

The excavation of mountains of this substance, where it has been found fifty or even sixty feet thick, gave rise to the belief that it was a peculiar sort of earth there deposited—that it was impossible for such an accumulation to have arisen from the droppings of birds; but that such is the fact is beyond doubt. This has given rise to much speculative opinion. It is asked, "Has it originated in the same islands where it is now found, or has it been accumulated there by some revolution of the earth?" Does it point back to an era when the deluged globe was provided with a greater number of aquatic birds than at the present time, in the same manner as the coal formation refers us back to a vastly luxuriant vegetation? Or, was the guano formed under circumstances perfectly similar to those now existing; and was nothing required to produce such immense stratification, but a long succession of ages?" When we look back to the countless years that must have passed away before such accumulations could have taken place, simply by the presence of flamingos and cormorants, it certainly gives rise to unbounded astonishment. One fact, related by Garsilaso, a Spanish author, should be stated. He acknowledges the importance of guano to Peru, and says that under the government of those rulers called incas, in the fifteenth century, it was made a crime, punishable by death, to destroy any of the sea-fowl that inhabited the guano islands. This law has, long ago, been laid aside; it indicates, however, the estimation in which the substance was held; and also throws a gleam of light on the means of its accumulation.

It may be asked, why the manure from sea-fowl, which abounds in considerable quantities on some of the rocky islands in the north of Britain, may not equal guano? or why the products of our own pigeon cotes and hen roosts, may not be of equal value? Each of these is known to be a powerful stimulant to vegetation, a circumstance which arises mainly from the combination of the solid and liquid excretions of birds; but that which has been exposed on rocks in Europe, has its most valuable portions washed away, by repeated rains; whereas, in that immediate part of the globe whence guano is brought, it never rains. The manure is deposited stratum on stratum, where it consolidates, dries, and retains all its powerful ammoniacal and other ingredients. Again, a wide distinction exists between the excrements of carnivorous and granivorous animals; between that of marine birds, which live on fish, and poultry, which live on vegetables. Who amongst us does not know the difference between the offensive gases arising from decaying animal matter, and that of hay, or similar vegetables? These gases, which have hitherto been suffered to escape, and are thereby lost, but which it should be the object of the agriculturist to retain—to fix, as it is called, are the very essence of manures, and that which, more than any thing else, is required for the luxuriant growth of agricultural crops.

As guano is found spread over an immense extent of country, it is likely that it will vary much in quality, from a circumstance already mentioned—that of deterioration by washing. It is found beyond the boundaries of those extremely dry districts, in which rain is almost unknown; and, when brought to us from a humid and wet climate, it will be greatly weakened in its effects. It is also found on low rocks and promontories on the American coast, where sand may drift over it, and be mixed with the genuine manure. These circumstances demand the attention of the purchaser.

We shall forbear to enter on the chemical analysis of guano; it is more our province to show its effects, and to inform our readers how it may be most efficiently employed in horticulture. We have, in progress, various experiments to assist in proving its value; and, as far as these have gone, they have, in general, been most satisfactory. We have already proved that it may be used too freely, and that injury may thereby be produced. In a liquid state, four ounces to a gallon of water, applied twice a week, for three weeks, to beds of strawberries, it has occasioned an amazing growth of foliage and blossoms, but its influence on the crop of fruit remains to be seen. On the other hand, a bed of seedling alpine strawberry plants, which had been up about a month, was thinly sprinkled with unmixed guano in powder, and it destroyed every plant where it was applied. The half of a bed of onions, which were six inches high, were sprinkled over, a month ago, with pure guano, at the rate of two ounces to every square yard, being upwards of five cwt. to the acre; the season has been rainy, and the onions, treated with guano, are double the size of those not so treated. Potatoes, which were six inches high, had guano sprinkled along the rows, amongst their stems, at the rate of an ounce and a half to every yard; and these are now (five weeks subsequently) far superior to those in parts of the rows purposely left without guano. Nine parts of light soil were mixed with one of guano, and half a spadeful of the compost was put into each of the holes regularly made to receive it, in a prepared bed of light soil; in the midst of the compost, in each hole, a plant of Brussels sprouts was put, and then well watered. This was done a month ago, and, at the present time, more than half the plants have dwindled and died. Geraniums were watered, at intervals of a week, five times only in the whole, with guano water, four ounces to the gallon of water; their leaves then began to curl, and, although the use of the liquid guano has been discontinued two months, it is unlikely that the plants will recover till they are potted in fresh soil. Plants, of various sorts, in pots, watered only with guano water, half an ounce to a gallon, have flourished astonishingly—none have failed. These are lessons which cannot be mistaken.

In a pamphlet by Cuthbert W. Johnson, Esq., on Guano as a Fertilizer, which may be referred to by those who are interested in the inquiry, we observe a communication from Henry Bland, Esq., of Liverpool, a late resident of Peru, in which is described the method of using this manure in that country. The practice is, doubtless, founded on experience, and indicates the propriety of applying it sparingly to young plants, and increasing the quantity in proportion to their strength. In allusion to the cultivation of maize, or Indian corn, Mr. Bland says, "When the plants are six or eight inches above ground, a pinch of guano, as much as can be easily held between the thumb and two fingers, is placed around each bunch, and the whole is usually irrigated immediately afterwards. Guano is again applied when the plant is about throwing out its fruits; a handful is then applied to each bunch, and irrigation immediately follows. The next succeeding crops,—potatoes and wheat, are produced without any further application of manure."

(To be continued.)

For the Farmers' Cabinet.

Wheat.

Mr. Editor,—The following portion of your extract from the Albany Argus, which appeared in this month's Cabinet, in regard to the influence of weather on wheat, is not in accordance with my small experience. It runs thus:—"We have known wheat to ripen on the Western prairies, in such cloudy weather as would, in the Eastern States, on our thin and comparatively impoverished soil, give no fullness to the berry—the exceeding richness and natural warmth of the Western soil, in a measure supplying the absence of a warm and ripening sun."

In the first place, we might assert, that our "thin and impoverished soil" gave as large return in wheat for many years after the country was first settled, as any of the "exceeding rich soils" of the far West. And it is but a few years since the western portion of New York was currently reported as having an inexhaustible soil for the production of this valuable grain.

As no soil can for any great length of time be made to support one species of trees or plants, without being properly fed by such food or properties as are adapted to the wants of the same, hence we must naturally expect that any one favourable portion of the vast prairies of the West, will in a given period, fail to produce the article of wheat in such abundance, with as little effort as at present. Let the reader bring to mind any plot of full grown timber that has been cut or burned down within his own observation, and which same piece is now producing a second growth of trees; these trees are not mainly of the same species of the former growth, for the simple reason that the soil was exhausted of those properties which were required to produce the former growth.

"Cloudy weather" is no disparagement to the growth and filling of grain, and "the absence of a *warm sun*" is just the thing we desire in our *impoverished country*, in order to produce a full berry to the grain.

The average yield of wheat in this State the present season, may be set down at 17 bushels per acre, safely; some pieces produce as high as 40 bushels to the acre. We have raised nearly enough for our consumption.

S. W. Jewett.

Middlebury, Vt., Dec. 27th, 1843.

A Hint to House Owners and Builders.

No portion of a house is so important to its preservation as a good roof; and yet, strange to say, although a poor uncivilized Indian can with common bark, cover his cabin or wigwam so effectually as to prevent a leak, the generality of "modern roofers," with the aid of a choice of materials—tin, copper, zinc, &c.—seldom are found ingenious enough to prevent a roof from leaking. The leaks most common to newly built houses are found about the chimneys, or wherever the material of which the roof is made, comes in contact with brick work. This arises from not properly covering the edge of the roofing. In tin roofs, the usual custom is to carry the sheets of tin some foot or six inches up along side the brick work, and to putty, or plaster, or cement the seam; but after a short time, either by shrinking of the rafters and other wood work of the roof, or a settling of the chimney, this putty, cement or plastering, is found to show a crack, by the tin being drawn from its position, and the water enters and runs down under the tin.

In other cases the upper edge of the tin is bent and inserted in the brick work, but the shrinking and settling above alluded to, produce the same result; the tin is drawn from its position and a leak is sure to follow. This causes more putty and plaster, and "paint skins" are also resorted to, but after a few showers and hot days they all prove ineffectual. Ask a roofer, and he will tell you "these leaks can't well be prevented; it always has been so and always will be, as long as wood shrinks or chimneys settle."

Now, a very simple plan cannot fail to prove a complete protection against leaks. When the chimney is built, let the mason be instructed to insert between the second and third tiers of bricks *above* the roof, a strip of sheet lead, say six inches wide, leaving about four inches projecting outward, the other two inches being firmly masoned in the brick, and leave it there. Then the roofer, when he is completing his work, will carry the sheets of the roof up the side of the chimney nearly to this lead, which he will then bend down over the upper edge of his work, and batter it smoothly and snugly down. There must be no soldering or nailing the two together. With this arrangement the shrinking of the wood work of the roof may draw the tin or other metal of which the roofing is composed, or the chimney may settle, but no leak can occur there in consequence.

If this plan is to be applied to houses already built, the hood of lead can be inserted in the brick work of the chimney by cutting out the pointing and plastering of the brick, and securing the lead with new cement.

Any man who builds a house and desires to have a tight roof, should insist upon having this lead hood inserted firmly in the work that rises above the roof, so that wh the roof is put on there is a covering re to be bent down over the roof work, it joins the brick or stone work o house.—*N. Y. Commercial Advertiser.*

For the Farmers' Cabinet.

Lime.

To the Editor,—Sir: I have read much pleasure, of the wonderful effec lime, as an improver of the exhausted, w out lands of Newcastle county. And feel a deep interest in the advanceme the farmers of this County and State, I thought fit to give you my experienc lime, hoping it may be of some serv the owners of such lands as I have a to above. I have used Mr. Abel Jeans' lime, burnt in the northern part of this —I have used shell lime, and Sc wood, and coal-burnt lime, all with uniform success. I have not for t t past, limed any of my lands that di me the cost of the lime, together with t rest, and cost of hauling and spreading, in two years from the time I bought and spread the lime on my lands. In some cases, I have been fully paid in one crop of corn or oats.

I have known Andrew Eliason, John McCracken, Charles Boulden, George Boulden, Robert M. Black, Esqrs., to be fully repaid in the first corn crop, for the entire cost of the first liming, hauling and spreading included, so that the lime did not cost the purchaser one cent at the end of the first year, as the extra grain more than paid for the lime, over what the land would have produced without the lime; no manure of any kind being used with the lime. I took different fields myself and tried the experiment, and I found that two crops—one of corn and one of oats—did in every instance, repay the outlay for the lime, and sometimes one crop paid the whole cost of the lime: the difference was owing, of course, to a variety of causes; on some soils lime acts more powerfully at first, and sometimes it is put on more evenly and in a finer state, and sometimes the seasons are better adapted to the powerful action of lime; and the prices also of produce, we know often vary. I would recommend the Schuylkill lime, sold on the Chesapeake and Delaware canal, by Jeremiah Zelly, of Mount Holly, New Jersey, as the best burnt and purest stone lime I have ever used from the Schuylkill. All he Schuylkill lime is very good, but some of course inferior to other lime. I would ecommend that the lime intended for corn, hould be spread next May or June, on a sture field intended for corn the following ing, as the lime spread on the old lea would have time to act more power- on the first crop, and pay as well, and ps better than if put on in the spring he corn is planted; of this, however, are different opinions. Lime may be n at any time, and in quantities of 25 bushels per acre, and should be evenly carefully spread, and not suffered to for that is injurious.

u can publish this, if you consider it n a place in your valuable paper. I ider lime will justify any prudent man re money at six per cent., and he will wenty-five per cent. clear or more.

Henry Cazier.

Vernon Farm, Summit-bridge,
Del., Dec. 18th, 1843.

conversation a few days ago with John Jones, ighbour to Henry Cazier, he informed the in 1841, he cut thirteen bushels of wheat from a field of thirty-two acres, which had en so poor as to produce only about three The field had received a dressing of forty of lime to the acre, in 1838, and a crop of oats which had been injured on the 17th of sixth month, 1840, by a hail-storm, was ploughed down pretty soon afterwards. Wheat in the ninth month, 1841, was worth $1 50;—the lime cost 20 cents per bushel, and the first cost of the land was $10 per acre. So that if the extra ten bushels of wheat be set down to the credit of the lime, it will within $3 an acre, pay for both land and lime; to say nothing of the superior condition in which the land was left after the wheat was taken off.—Ed.

Farmer's Encyclopedia.

The editor of this work has requested the republication of the following note, originally addressed to the Cultivator. We use the occasion to say, that on looking over the article afresh, which appeared at page 347, of our last volume, and which has been the cause of considerable uneasiness to some of our very sensitive friends, we remain of the opinion then expressed, that it is a beautifully written speculation upon a very curious and interesting subject, and need by no means, have given rise to those "thunders of indignation," which some of our Southern friends have thought necessary for its annihilation, and with which they have thought proper to frighten their readers. No one has contemplated injustice to the South. We have not said, nor do we mean to say, that all the author's positions are sustained, or that they are all tenable; but the subject is particularly curious, and the assumptions of the writer are philosophically argued. What is wanted for the South that is not yielded to her? Has she not her orange groves, her rice fields, and her sugar plantations, in all their exuberance, and in all their capacity to enrich their cultivators? And from these and other similar privileges, are we not continually feeling, and are we not ever ready to acknowledge, that the rigidness of our climate cuts us off? Why should we fight with our own shadows, or with windmills, conjuring up difficulties to vex ourselves with, which are in reality only the floating phantoms of our imaginings? The remarks of some of our cotemporaries in relation to this subject, lead us to the belief that they not only think that nature has meant to do every thing exclusively for them, but are vexed if every one else does not assent to their assumptions. We have been reminded of the man who was so grasping as a landholder, that he sighed *for all the farms west of him!*

The article was transferred to the Encyclopedia from Featherstonhaugh's American Journal of Geology and Natural Science. But it was not written by Featherhaugh. It was written by a thorough Southern man, now holding, if we are rightly advised, large interests in Alabama. It probably never entered his mind—he never dreamed that he was writing any thing derogatory in the least, to his own "sunny South;" he could have no possible inducement to do so: neither have those any such feeling, who have read with pleasure, and who still claim the privilege to admire, the article in question.—Ed. F. Cabinet.

Messrs. Editors,—We regret to find that an article upon the *Influence of Climate on the Productiveness of Plants*, introduced into the Farmer's Encyclopedia, has caused us to be denounced as entertaining feelings unfriendly to the interests of the Southern States. Very erroneous impressions have been propagated in regard to us, by means of extracts and garbled statements made by those who have never seen our work, in which it is explicitly stated from whence the article was taken. Where we are personally known, we entertain no fear of being in the least suspected by Southern men of any desire to do the South the least injustice. To show, however, what little foundation really exists for accusations against us, we think it proper to state, that the article which has been complained of, was written several years since, and originally published in the American Journal of Geology, by a *Southern man*, born and educated in South Carolina, and largely interested in Alabama and Mississippi property, in both which States he has spent much of his life.

The position sought to be maintained by this able and unprejudiced inquirer, is, that "the cultivated plants yield the greatest products near the northernmost limit in which they will grow." He has certainly argued the point with great ingenuity and plausibility, but whether his data are all invariably correct, we will not take upon ourselves to assert, not wishing, at present, to argue the subject. The author is abundantly capable of taking care of himself, should he feel called upon to do so. But we do not think it likely that he will condescend to notice all the communications which have been, or may be made upon the subject through different journals, some of which are from persons possessed of marvellous faculties for discovering treason where this or any other offence was never dreamed of. The question affords an interesting topic for discussion in journals devoted to agriculture and natural science.

EDITOR OF F. ENCYCLOPEDIA.

Philadelphia, Oct. 16th, 1843.

Cotton Crop, &c.

Ingleside, Adams co., Miss., Oct. 26th, 1843.

TO THE EDITOR OF THE F. CABINET,—Sir: I write you on the eve of our Agricultural *Fall Fair*—the rain falling in torrents—a steady, cold, right-in-earnest sort of rain—roads knee deep—and the ground so completely saturated with water, that even if it cleared off to-night, which there is a possibility of its doing, with frost, we could have no comfort at our Fair. It is much to be regretted, as there was every assurance of a most interesting and very full meeting. I presume we shall have a postponement for a few days—long enough for the weather to moderate, and the roads to become go again.

December 6th.—A long interval—I found this letter in my desk unfinished, and now take it up to close it.

Our Fair was postponed a few days, an came off well—one of the most interestin meetings we have ever had. I sent you fu reports in the "Concordia Intelligencer."*

We have had, and still have, one of th most ruinous seasons imaginable for th planter. Almost incessant rains, heavy win and frequent great changes in the temperature. We have only very recently had a frost severe enough to injure the cotton, bu the rains and warm, close weather, had already wound it up. Few in this regio will gather over half a crop; and those wh like myself, have considerable quantities o cotton yet ungathered, and who though themselves favoured, will be very littl benefited, as the seeds are sprouting in th bowls. Where the 2,000,000 of bales ar to come from, which it was thought the present crop would amount to, I never coul imagine; and now I do not believe the cro will reach 1600,000.

So the editor of Carey & Lea's edition o the Farmer's Encyclopedia, thinks that th author of the article copied by you from th Encyclopedia, on the Influence of Climat on the Fruitfulness of Plants, can take car of himself, *if he will condescend to do so* I, for one, must disagree with him—I thin it impossible for Mr. Featherstonhaugh, o Dr. Emerson, or both of them, *to prove on half of the assertions* made in the article i question.

Yours truly and respectfully,
THOMAS AFFLEC

JOHN BELTON O'NEAL, states in the ern Agriculturist, published at Char S. C., under date of August, 1842, December previous, he "sowed a smal tity of wheat for Col. Peter Hair. sown in cotton ground. The greate of the seed was rolled in wet lime, so encrust the seed; as far as that exten there was not the least smut. Three or lands were sown with the seed, without b rolled with lime, and they were full of s This little experiment goes far to show lime is an antidote to smut."

THE number of eggs imported int land from various parts of the Co for the year ending January 5th, 1 83,745,723, and the gross amount received for the same, was £29,11

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* This paper has not been received.—

Of the Properties and Composition of Milk.

The milk of most animals is a white opaque liquid, having a slight, but peculiar odour, which becomes more distinct when the milk is warmed; and of an agreeable sweetish taste. It is heavier than water—usually in the proportion of about 103 to 100. When newly taken from the animal, cow's milk is almost always slightly alkaline. It speedily loses this character, however, when exposed to the air, and hence even new milk often exhibits a slight degree of acidity. When left at rest for a number of hours, it separates into two portions, throwing up the lighter part to the surface, in the form of cream. If the whole milk, or the cream alone, be agitated in a proper vessel—a churn,—the temperature of the liquid undergoes a slight increase, it becomes distinctly sour, and the fatty matter separates in the form of butter. If a little acid, such as vinegar, or diluted muriatic acid, be added to milk warmed to about 100° Fahrenheit, it immediately coagulates and separates into a solid and a liquid part—the curd and the whey. The same effect is produced by the addition of rennet or of sour milk; and it takes place naturally, when milk is left to itself until it becomes sour. At a very low temperature, or when kept in a cool place, milk remains sweet for a considerable time. At the temperature of 60° Fahrenheit, it soon *turns*, or acquires a sour taste, and at 70° or 80° it sours with still greater rapidity. If sour milk be gently warmed, it undergoes fermentation, and may be made to yield an intoxicating liquor. By longer exposure to the air, it gradually begins to putrefy, becomes disagreeable to the taste, emits an unpleasant odour, and ceases to be a wholesome article of food.

The milk of each species of animal is distinguished by some characters peculiar to itself.

Ewes' milk does not differ in appearance from that of the cow, but it is generally more dense and thicker, and gives a pale yellow butter, which is soft, and soon becomes rancid. The curd is separated from this milk with greater difficulty than from that of the cow. *Goats'* milk generally possesses a characteristic unpleasant odour and taste, which is said to be less marked in animals of a white colour, or that are destitute of horns. The butter is always white and hard, and keeps long fresh. This milk is considered to be very wholesome, and is often recommended to invalids. *Ass's* milk has much resemblance to that of the woman. It yields little cream, and the butter is white and light, and soon becomes rancid. It contains much sugar, and hence soon passes to the state of fermentation. Milk, like vegetable products, consists, besides water, of organic substances destitute of nitrogen—*sugar* and *butter;* of an organic substance containing nitrogen in considerable quantity—the *curd* or *casein;* and of inorganic, or saline matter, partly soluble, and partly insoluble, in pure water.

The proportions of these several constituents vary in different animals: this appears in the following table, which exhibits the composition of the milk of several animals in its ordinary state, as found by Henry and Chevallier:

	Woman.	Cow.	Ass.	Goat.	Ewe.
Casein (cheese,)	1.52	4.48	1.82	4.08	4.50
Butter,	3.55	3.13	0.11	3.32	4.20
Milk sugar,	6.50	4.77	6.08	5.28	5.00
Saline matter,	0.45	0.60	0.34	0.58	0.68
Water,	87.98	87.02	91.65	86.80	85.62
	100.00	100.00	100.00	100.00	100.00

From the numbers in the above table, it appears that the milk of the cow, the goat, and the ewe, contains much more cheesy matter than that of the woman or the ass. It is probably, this similarity of asses' milk to that of the human species, together with its deficiency in butter, which, from the remote times, has recommended it to invalids, as a light and easily digested drink.—*Johnston's Lectures.*

Poudrette and Stable Manure.

In a note to the Editor, from D. K. Minor, of the 6th instant, he says: "I send you herewith an extract of a letter from Mr. T. Townsend, of Newtown, L. I., who was long an unbeliever in the value of Poudrette, but who now uses it largely." He says:

I have the pleasure of stating, that I have used *Poudrette* of the manufacture of your company, and have seen its good effects on flowers and garden vegetables generally; but more especially when used on wheat, and grass following it.

In the fall of 1841, I manured a field for wheat with the best stable manure from the city of New York, at the cost of $33 per acre, except one acre through the centre, on which I put forty bushels of Poudrette, at 40 cents a bushel, and transportation $1,—equal to $17 per acre. On cutting the grain in 1842, I could perceive no difference, except that the straw was shorter where the

Poudrette was used than where stable manure was used; nor could I perceive any difference in the grass, on mowing it this season, or in the pasture up to this time; the grass and pasture being quite as good where the forty bushels of Poudrette were used, at a cost of $17, as where the stable manure was used at the cost of $33 per acre.

This year I cut a piece of wheat which was manured with Poudrette last fall, at the same rate, forty bushels per acre, which is as good as any in the country, yielding thirty-six bushels and a half per acre, weighing sixty-one and a half pounds per bushel; though Long Island is not considered a good wheat country.

On corn, I think it should be spread broad cast, as it is too powerful to be used in the hill at the rate I use it, forty-five bushels to the acre. My corn this year is nearly double where I used Poudrette at that rate broad cast on the sod before it was broken up, to that which was planted with other manure.

I have a piece of wheat sowed this fall, manured with Poudrette, fifty bushels to the acre, at the cost of $16,50. (Poudrette costing less than in 1841) which looks exceedingly well. I have used poudrette this year to the amount of over $150, and can recommend it as a good and cheap manure, especially when the farmer has to haul his manure any distance.

I remain, yours, &c.,
T. B. Townsend.

Newtown, L. I., Nov. 2nd, 1843.

Maxims to be observed by the Bee-Keeper.

One of the most interesting books we have read on the subject of Bees, is that of Robert Huish, on their 'Natural History and General Management." The author differs in many respects from Huber and other celebrated apiarians, and boldly marks out and follows his own path. We publish below, his 24th chapter, without however adopting all his sentiments. It may furnish numerous valuable hints, and lead to further inquiries and investigations on questions still unsettled, and on which our best observers disagree.

We have repeatedly referred to Bevan's little book on the Honey Bee, as containing the best information within a narrow compass, and at a low price. We have it continually for sale.

Huish is a bold experimentalist, and has really made a very entertaining book;—the novelty of some of his views will make our Bee breeders brush up their old recollections and opinions, and inquire whether or not they be all correct.—Ed.

I. A hive is composed of three kinds of bees.

1st. The queen, who is the only female, and lays every egg in the hive.

2nd. The drones, amounting in number from 600 to 1000, according to the population of the hive. They fecundate the eggs of the queen, being the only males in the hive, and are killed by the working bees at the close of the breeding season.

3rd. The common working bees, who. being of the neuter gender, take no share in the procreation of their species. They collect the honey and make the wax, and may be calculated from 1000 to 6000 in every hive. In summer the numbers are considerably augmented.

II. The bees never allow but one queen in a hive, who begins to lay her eggs about the end of January, and finishes about August or September.

III. The young queens never lay eggs in the parent hive. If there be not a sufficient number of bees to form a swarm, the young queens are killed.

IV. A swaim without drones is not of any value: when drones are wanting, about two or three hundred to be taken from the parent hive.

V. A hive which has drones in the winter, generally perishes.

VI. A weak swarm will weigh from one to two pounds; a middling one from three to four pounds; a good one about five pounds; and an excellent one from six to eight pounds.

VII. Bees deprived of their queen will not work, and will perish if there be no royal egg in the hive from which a queen can be born.

VIII. The larvæ of the bees are about six days in completing their growth, according to the state of the weather; they then take the form of a nymph or chrysalis, in which they remain about fifteen days, when they emerge from the cell a perfect bee.

IX. Eggs are hatched successively in hive; and when the number of bees whic have emerged from the cells be greater than the hive can contain, they form what is called a *swarm*, which is always accom nied by a young queen, but never by mother queen.

X. There are no determined signs for departure of a swarm. It generally ta place from the hour of ten, A. M., to abo two, P. M. A swarm seldom departs windy weather, and never during rain.

XI. A swarm never to be put in an hive.

XII. A hive that has thrown off swarm, will generally throw off a se and a third; the latter always to be retur to the parent hive.

XIII. The greater the number of sw the less is the quantity of honey.

XIV. The hives which throw off t swarms, generally perish in the winter less the swarms be returned to them.

XV. Swarms do not thrive well in very large hives; the larger the hive, the greater the quantity of wax, and less the quantity of honey.

XVI. Several swarms united in one hive, will furnish a greater supply of honey than if allowed to remain separate.

XVII. The first occupation of a swarm is to construct the combs, and scarcely twenty cells are made before the queen begins to lay her eggs. All the combs are generally placed in a direction perpendicular to the entrance of the hive. The interval between each comb is about three lines.

XVIII. There are only three substances in a hive. 1st. Honey, which is collected from the flowers. 2nd. Wax, formed by an elaboration of the farina of plants. 3rd. Bee-bread, which is the crude farina of plants not yet elaborated.

XIX. The cells of the combs are of different dimensions. The cells in which the common bees are bred, are a complete hexagon, and the smallest in size. The cells in which the drones are bred are larger, and irregular in their shape. The cells in which the queens are bred are placed perpendicularly on the edges of the combs, having the opening at the bottom, and about the size of an acorn.

XX. The bees never to be allowed to leave the hive during the time that snow is upon the ground.

XXI. The cells which contain honey are covered with a small pellicle, and are flat; the cells which contain brood are convex.

XXII. The severer the cold, the less is the consumption of food; if kept dry, there is not any cold in this climate which can affect the lives of the bees.

XXIII. The hives which are completely closed during the winter, become foul and musty, which occasions the death of the bees, independently of their being prevented [illegible] their periodical flight for the purpose [illegible] their fæces.

XXIV. The mortality of bees proceeds almost always from the want of provisions, [illegible] the death of the queen.

XXV. The aspect of an apiary should always be to the south-east. A hive with an aspect towards the north, will not swarm so soon by three weeks, as one which has an aspect towards the south.

XXVI. Water is indispensable to bees; if not naturally in the immediate vicinity of the hives, to be artificially supplied.

XXVII. Raw sugar never to be given to [illegible] food; and no food to be given to [illegible] which has not undergone the process [illegible] boiling, with the exception of honey itself.

XXVIII. Neither tobacco nor sulphur to be used in the fumigation of bees; the smoke of dried leaves or rags will answer every purpose.

XXIX. Every hive to stand upon its own pedestal, two feet from the ground. Hives placed on benches, are subject to pillage and battles.

XXX. A person may by law follow his swarm into the garden of another person, paying for all damage that he may occasion, provided he can prove that he has never lost sight of the swarm from its departure from the hive.

XXXI. The customary noise with pokers and shovels, and frying-pans, and warming-pans, is of no real benefit. The bees will never settle until the queen sets them the example.

XXXII. Deprivation of hives to take place in the spring, and not in the autumn. Glasses to be placed on hives in the month of February or March. Hives seldom swarm which have glasses put over them.

XXXIII. Hives to be protected from the sun in summer, when the heat is very great. In spring, however, the coverings to be taken off the hives, that the sun may play fully upon them. A hive without a covering, will swarm a fortnight sooner than one with a covering.

XXXIV. Bees to be assisted in the killing of the drones. As not a single drone is left in the hive, they may be indiscriminately killed as soon as the bees signify the proper time.

XXXV. Bees of a first swarm begin their combs in the middle of the hive; the bees of a second swarm begin their combs at the side. A valuable hint to the purchasers of swarms.

XXXVI. Swarms always to be fed if rainy weather ensue immediately after their being hived. The food to be given late at night, but *never* in the middle of the day. A swarm not to be placed in the immediate vicinity of the parent hive.

XXXVII. In winter, the bees occupy the top of the hive; in spring and summer they occupy the middle and the bottom.

XXXVIII. The age of a hive determined by the colour of the combs. The combs of a young hive are yellow, progressing through every shade to a positive black, which is an indisputable sign of an old hive.

XXXIX. The goodness of a hive determined by its weight; a hive of twenty-five pounds may be considered excellent if in the months of February or March; if in September or October, it is then but of a secondary character.

For the Farmers' Cabinet.

Mode of putting in Wheat and Rye.

Mr. Editor,—Opinions differ in regard to the best mode of covering winter grain, whether by ploughing in or harrowing, both of which I have tried, and give the preference to ploughing the seed under, when it is done carefully and judiciously; but finding the process rather tedious, I was induced to try an experiment this fall, when I put in nine acres of wheat, which I turned under with the Cultivator, and which has succeeded to my perfect satisfaction. The seed came up with great regularity, and really looks as if it had been put in with a drill. Independent of this, the work was done in less than half the time it would have taken had it been ploughed in, and the economy of time and labour is a matter of importance to every farmer. In using the plough for covering wheat, I found it was not covered to that uniform depth which is desirable, as the ploughman will at times force the plough to a greater depth in some parts of the field than he does in others, in consequence of which the seed is buried too deep in some parts, and too shallow in others. But I do not find this to be the case when the Cultivator is used, as no force is required, the weight of the implement itself being sufficient to carry it to the required depth, and the operator has merely to guide the horse in the proper direction and steady the implement with his hands.

I am induced to communicate this experiment, trifling as it may be, for the information of your numerous readers, and shall be glad at a future day, to learn the opinion of those who are much better informed than myself on these matters, and who may be induced to try it. J. T.

Hamilton Township, N. J.,
Dec. 16th, 1843.

For the Farmers' Cabinet.

Sex of Strawberry Plant--Peach Worm--To Preserve Apples--Plough.

Mr. Editor,—Not the least among the benefits derived from your valuable paper, is the suggestion of useful hints for the regulation of our affairs in their proper season. If you should consider the following remarks worthy the room which they will occupy, you can dispose of them accordingly.

Some discrepancies of opinion I find to be still prevalent in regard to the sexual character of the strawberry, which appear to me to be perfectly reconcileable with the well known habits of this interesting plant. Some of the varieties, to which that of your correspondent undoubtedly belongs, (see last No. of Cabinet, p. 139,) bear what botanists call perfect flowers, which means that like the apple, the peach, and the cherry, each flower has within its own corolla all the organs necessary to fructification, viz: pistils or female organs, and stamens or male organs. Other varieties again belong to the Linnæan class, diœcia,* of which we have familiar examples in the hemp, the hop, and the spinach, bearing on one plant, flowers with stamens only;—and pistils only on others.

I have heard of a third kind, which by cultivation has assumed a mixed character, producing imperfect fruit, unless the plants are intermingled with other kinds. That variety of the strawberry which has been cultivated in this valley for 30 years, and by some called Chili, is strictly a diœcious plant; beds composed altogether of either six being always barren; whereas no other sort is more prolific, where there is a due proportion of each sex; one male to ten or fifteen females is considered a sufficient allowance. The honey bee appears a principal agent in the work of fecundation, by carrying the fructifying pollen from flower to flower.

It is customary with us to mark with stakes the males in several rows when in flower, at which time, they can be distinguished at a glance; in order that we may know whence to select in making new plantations in the fall. *The runners uniformly producing plants of the same sex with the parent root.*

For the worm in the peach tree we have a simple antidote in boiling water. Without occupying too much of your paper with the details of my experience with this remedy, suffice it to say, that if diligen applied spring and fall as herein direct I have reason to believe that it will p effectual.

Scoop away the earth from around tree so as to form a small basin, rea down to the forks of the roots, into pour three or four gallons of boiling drawing the earth again around the

This quantity will be sufficient for y trees, but as they grow older, and the b proportionally thick, it is necessary to peat the application of the water immedi ly, as too much of the heat of the bucket is absorbed by the cold earth; t found to be the case, having occasion observed that the tree did not as usual cover after the application of the water: I have taken out the full grown worm alive.

---

* *Diœcia;* compounded of two Greek words, meaning *separate houses.*

The worm, as your correspondent G. B. Smith, (see last No. of Cabinet, p. 143,) observes, is the product of a wasp-like insect, and remains in the tree at least once winter before it is transformed into the perfect or winged state. Those who are curious in such matters, will find a fine engraving of the insect, (Ægeria Exitiosa) in Say's Entomology. I hope that the sheet zinc, as recommended by your Washington friend, may continue to prove a protection against this vexatious intruder; but I fear that such is the unerring impulses by which all insects are guided to their appropriate aliment, that all our attempts to circumvent and outwit them, will end in discomfiture and disappointment,—and we will be compelled to admit, that instinct in such cases is an over-match for reason. If time and space permitted, I might describe some contests of this kind amusing enough; which convinced me that to succeed in our purpose, or rather to prevent these pests from effecting theirs, we must either put them to death, or erect such a barrier between them and their prey, that they *can neither cut their way through nor get round.*

The peach insect is capable of enduring almost any degree of cold, but does not bear heat equally well; and this is the reason why it is more destructive in a cool loose soil, shaded by grass and weeds, than in a gravelly or sandy situation, exposed to the direct rays of the sun. Charcoal has been highly recommended from several quarters, as a preventive when applied around the root of the tree, to be confined there by a box or otherwise. From the well known capacity of this substance for heat I should e disposed to place much confidence in it.

To preserve apples so as to retain all their ness and peculiar flavour, it is neces- that they should be excluded from the nd kept as cool as possible, so as not to the risk of freezing, by which means revent both evaporation and chemical e.

arcoal as suggested, will preserve them, they become dry and insipid: plaster ubtless will succeed much better.

The method which I have adopted for many rs, is one which has been frequently re- nended, and is perfectly successful; so t least, as regards freshness and flavour; ny of certain kinds will rot in this way vell as every other which I have tried. rcoal as a mere preservative, is perhaps perior to every other substance: but when we wish to have dried apples we take more expeditious method.

I gather the apples when dry, and immediately pack away such as are sound, in dry cool cellar, in boxes or casks, keepin each kind by itself, in alternate layers clean dry sand. An important advantage the sand is, that the moisture from the rotte ones, of which there will always be more o less, will be absorbed, so as not to injur others lying in contact.

After a fair trial of the Centre-draugh plough of the Messrs. Prouty & Mears, have the pleasure to say that it performs it work admirably, and requires less motiv power than any other we have had here; a the same time I regret to state, that it ha one defect, which must exclude it from ou limestone vallies; and this arises from th insulated coulter. In the structure of ou ploughs, it is absolutely necessary that th heel of the coulter should rest upon the poin of the share, so as mutually to protect an support each other; otherwise it is impossible that they can sustain the violent shock necessarily encountered against the rock every where concealed below the surface For the above reasons the Lancaster, o Shielman plough, is a great favourite wit us; makes splendid work, but is of a heav draught, requiring three horses in a sod.

Joseph Henderson.

Kishacoquillis, Pa., Jan. 1st, 1844.

The Plum.

To the Editor of the F. Cabinet,—

Dear Sir,—I find many valuable hints i your excellent paper on raising fruit, togethe with their diseases, enemies, and cures: bu there is a disease in the finer varieties plum in this region, which blasts all the hope of the cultivator, and one which I have neve seen noticed, that I know of.

The plum when young, grows off ver finely, if it is not disturbed by the curculio and this is easily prevented by spreading sal or a heavy coat of ashes around the tree, far as the branches extend, in April: bu when nearly ripe the fruit begins to moul and rot on the tree, and in a few days it gone, and nothing is left to reward the ca of the cultivator. I have tried heavy pru ing; I have used soapsuds to wash the tre and ashes around the root, and I have l nature take her course, but all to no effec Perhaps some of your numerous readers ca throw some light upon the subject: if so, yo will much oblige one of your constant reader

A Young Beginner.

Centreville, K'y, Dec. 26th, 1843.

Poudrette.

New York, January 5th, 1844.

K. Minor, Esq.

Dear Sir,—In answer to your inquiries in
e American Agriculturist, as to the experi-
ce of farmers having made use of Pou-
ette as a manure, I give you mine.
In 1839 I put twenty-five bushels to the
re, on six acres of land near Poughkeepsie,
very poor quality, (having been cropped to
ath) and sowed the field with wheat, and
d it down to grass. The crop of wheat
s of the best quality, and a very fair crop.
e grass seed took well, and has not been
ughed since. The grass still very good.
In 1842, I wished to lay thirteen acres
wn to grass. I had taken from the field
half wheat, and the other half oats. I
wed early, and sowed the whole to wheat,
l put on twenty bushels of Poudrette to
acre. It took a fine start in the fall, but
ing to the severity of the winter and spring,
the drought in the fore part of sum-
r. The crop was not large, but the quality
s the best, weighing sixty-four pounds to
bushel, and took the first premium at the
of the American Institute in 1843. The
ount of wheat taken from the field was
ut two hundred bushels. I have full faith
he Poudrette, and shall continue my ex-
ments. Very truly yours,

R. B. Coleman,
Of the Astor House.

HE FARMERS' CABINET,
AND
AMERICAN HERD-BOOK.

Philadelphia, First Month, 1844.

is stated in a recent number of the Southern
er, that John M. Botts, of Henrico, Va., has
l this year, one hundred bushels of corn upon an
of land.—And why should not this quantity be-
common on our farms? Why should not our
ing operations become synonymous with *garden-*
on a large scale?
entirely believe, and occasion has been taken to
the suggestion in the Cabinet before this, that
nswer to these questions may be sought in the
hat the operations of our farmers are upon too
a scale; that is, they till more land than is pro-
nate to the capital which they are able to em-
n it. Of course, and of necessity, their tillage
cient, and their land remains to be unimproved,
elding any thing like its maximum of profit.
his young country, stretching from the Bay of
to Cape Sable, and from this to the Rocky moun-
with a population but thinly spread over the
of it, our redundancy—our surplus, it is plain
een, must be land: in England, on the contrary,
urplus is capital, and labour; and therefore it is,
that their agriculture is far superior to ours. They
make outlays in their farming operations, which en-
able them to bring their lands to approximate at
least, in many instances, to the highest state of p
ductiveness. Their large amount of capital, and th
surplus of labour are thus brought into the ma
and made available, both for the general good a
dividual profit. We lack capital, and we lack lal
but having abundance of land, we are persua
undertake the management of farms, which are
sive beyond our means to make the most of, a
unfrequently we are found going behind-ha
plantations of two or three hundred acres. Th
whose farm is larger than his means, must of ne
be a poor farmer—his land grows thinner and th
—his crops lighter and lighter—and his labour, in pro-
portion to the returns from his lands, becomes heavier
and heavier, for the furrow, it will be acknowledged,
is just as long in a corn-field that will yield but fifteen
bushels to the acre, as in one that will give one hun-
dred.

In connection with this subject, we recollect an an-
ecdote of the late William West, brother of Sir Benja-
min the painter, and one of the best farmers in Dela-
ware county, and the late Benjamin Johnson, of this
city, who, at the time alluded to, had just purchased a
farm. He inquired of William West, what method he
should adopt to render it the most profitable? "Make
it rich," was the reply. "Ah, but it will cost too much
money." "Then make twenty acres rich." "But that
also, will cost too much." "Then enrich ten—or if
not ten, five—and if not five, make one acre rich. At
any rate, enrich a part as soon as possible, alwa
having an eye to enriching the whole: the part first
made rich, will immediately help to enrich the other."
Who will say that this advice does not contain a text,
that will bear to be speculated upon by many of our
readers, during the whole of one of these long winter
evenings?

This is the season when the comfort of your cat
and hogs should be looked to and provided for. Com-
fort is said to be cheap fodder. The merciful man is
kind to his beast. Milch cows will not only yield m
milk, if kept warm, but they, and other stock will
quire less food, than when shivering, unprotected
the inclemency of the season. To see his cattle,
sheep, and hogs—all so dependent upon him—well
and well housed, is really one of the most pleasurab
sources of enjoyment which the provident farmer h
in connection with his business, at his command.
every farmer then, who would enjoy as he ought
warmth of his fireside, and all his other privilege
able to reflect, when the winds whistle without,
plenty is in, and around his barns—and that it is
administered, as most to promote the comfort of
stock. All this, too, let it be remembered, will run en-
tirely parallel with his interest.

☞ We would like our subscribers to remember, t
every facility is offered for the transmission of
small sums due us, in the authority given by law to
post-masters, to frank remittances to publishers. The
Farmers' Cabinet owes much to the kindness and cour-
tesy of post-masters in this matter, and it affords us
pleasure, thus publicly to acknowledge it.

Two or three preparatory meetings have laterly been eld in Burlington, N. J., to take into consideration he propriety of forming a State Horticultural Society. the 23d ult., as we learn from the Burlington Ga- , the Society was fully organized by the election chard S. Field, Princeton, President;—William t, Newark; Richard Fetters, Camden; Charles n, Mount Holly; Amor W. Archer, Burlington; s C. Yard, Trenton; and Roswell L. Colt, Pater- ice Presidents;—Ira B. Underhill, Burlington, rer;—William White, Lawrenceville, Corres- Secretary;—and Wm. W. King, Burlington, ing Secretary.

re gratified to hear of the enterprise; and judg- rom the names associated with it, we trust the ociety will not be idle.

The prize Essay, by Willis Gaylord, one of the editors of the Cultivator, "On the Preparation and Use of Manures," is brought to a conclusion in the present umber. It is throughout, valuable for the sound sense nd good judgment, and matter-of-fact tendency which characterize it. The concluding paragraph itself, at page 176, on the necessity of manuring, contains many ints and stimulants to exertion, which the shrewd nd intelligent farmer will not fail to turn to profit- ble account.

We are indebted to one of our friends at Centre- ille, Md., for a couple of fine specimens of red and ellow corn. They shall be distributed, and the sender will accept our acknowledgments.

The Gardener's Almanac, of London, states that rom some experiments made by Professor Lindley, he omes to the conclusion that it was best to plant pota- oes in rows about two feet apart, and the sets six nches distant from each other, and about the same epth. We are advised also, not to place the sets upon anure in trenches, nor to raise potatoes oftener than ce in four years, on the same ground. The editor, George W. Johnson, Esq., has very great doubts, whe- her earthing up is beneficial or injurious, but he in- es to think the latter. The blossoms, he says, ould be taken off as they appear, and the ground by eans, be kept loose by frequent hoeing.

---

a letter from Dr. Kirtland, addressed to the Cleve- d Herald, he says: "Few people know that modern ticulturists have obtained numerous varieties of of the finest quality, that will keep through the r with as much certainty as the best kind of late ng apples. With the name of Winter pear is y associated the idea of a hard, austere fruit, that eatable until prepared by cooking. Such, for in- ce, is the Pound pear, and from it our ideas of win- pears are mostly formed."

We are fully aware that many farmers in this vi- ity are discouraged from planting the pear tree. It rishes till it is six or eight years old,—bears a year two, and then too frequently disappoints the hopes f the grower, by becoming diseased at the ends of the mbs, or around the trunk, and dies. The Editor has rom year to year, found this to be the case with his wn trees. But we would say—*persevere.* As an ar- icle of luxury in the family, the Winter pear is delicious; as one of profit, it does not deserve to be much neglected as it is. Dr. Kirtland, well known f the interest which he takes in the subject, and the a tention which he has given to the propagation of frui refers in his letter to the *Easter Beurré,—Beurré* *Aremberg*, and other varieties of excellent wint pears, capable of being readily kept through the wi ter, and which are entirely calculated to save us t trouble of sighing for the banana and the pine-appl Very few of the winter pear are to be found in o markets, and the subject is certainly deserving the a tention of farmers. Trees may be procured of Samu Rhoads, Jr., of this vicinity.

Youatt on the Horse.

Lea & Blanchard publish and have for sale, "T Horse," by William Youatt, a new edition with n merous illustrations, together with a General Histc of the Horse; a dissertation on the American Trotti Horse, how trained, &c.; an account of his most markable performances; and an Essay on the Ass a the Mule, by J. S. Skinner, Assistant Post-master Ge eral, and Editor of the Turf Register. In one volu 8 vo., with over fifty engravings on wood.—For sale this office; price $2.

At a stated meeting of the Philadelphia Society promoting Agriculture, held the 3rd inst., the followi officers were elected for the present year:—

Dr. James Mease, President
In place of N. Biddle, Esq., resign
James Gowen, Kenderton Smith, } V. Presiden
Aaron Clement, Recording Sec'r
P. R. Freas, Assist. Record. Sec'
Dr. A. L. Elwyn, Cor. Secretar
Algernon S. Roberts, Treasure
Samuel C. Ford, Isaac Newton, } Curators.
Aaron Clement, Librarian.

We keep on hand at this office, and will supply friends with, Agricultural works generally. Am which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price $4
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions; 2
THE AMERICAN POULTRY BOOK;
THE FARMER'S LAND MEASURER;
DANA'S MUCK MANUAL;
Complete sets of the FARMER'S CABINET, half-bound, 7 vols. 5
BEVAN on the HONEY BEE,
JOHNSTON'S Agricultural Works.
LIEBIG'S FAMILIAR LETTERS,

As well as his larger works on Chemistry and A culture.

Subscriptions will be received for Colman's A cultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

Wheat is worth from 90 to 98 cents; rye 56 t cents; corn 38 to 41 cents; oats 26 to 30 cents; w flour $4 25 to $4 75; rye flour $3 25; buckwheat $2 25 to $2 50; wool 30 to 42 cents; cotton 8½ t cents; clover seed from $4 50 to $5 50.

A private letter dated the 10th ult., at Hannibal, Missouri, "a town of very quick growth, of, say 2,500 inhabitants," lying on the Mississippi, one hundred miles or so above St. Louis, advises us that the past year has not been a favourable one for the farmer, throughout a large part of Missouri. "Wheat in Hannibal," says the writer, "is worth sixty-three cents a bushel. This high price is owing to its having been winter killed: and the opinion is, that the last harvest was more than 50 per cent. short of a fair crop. Corn is worth twenty cents a bushel, and oats from ten to fifteen. Pork brings from $1 to $2 per hundred; and beef is dull sale for cash, at 75 cents to $1 per hundred, by the quarter. Land is from $1 25—the Government price—to $20 per acre. Speculations in land have been extensive, and many of them ruinous. Those who purchased upon credit, and are burdened with debt, find it hard to relieve themselves at the present prices of produce.

"I start for Iowa to-morrow morning. The river being full of ice, there have been no arrivals from below for the last week or two, and none are expected: so having purchased a pair of saddle-bags at St. Louis, I shall pick them up and start off across the country, through Palmyra, the *belle* of northern Missouri, and so on in a north-west direction to Salem, Iowa, distant from 150 to 200 miles, which I think I can walk in six days, health being good and weather permitting."

We do not envy our traveller the *toating* of his saddle-bags:—but to a person who has hitherto scarcely seen the country or society beyond the smoke of our cities, such a walk must throw open a field for observation and reflection, which had been scarcely anticipated.

The Cultivator for this month, reaches us in an octavo form, which is a decided improvement. The editors have associated with them in its management, Sanford Howard, late of the Zanesville Gazette. The paper contains its usual amount of valuable matter; and without flattery to its proprietor, we remark that n its appearance, it is as neat as our own.

Johnson's Gardener's Almanac, and "*Glenny's Garden Almanac and Florist's Directory*," both for 1844, nd both published in London, contain, besides the calendar, and other matter common to such annuals, great variety of information, which the amateur florist and gardener will not fail to appreciate very highly.

It is not in our line to meddle much with flowers nd flower-pots—with the rose and the dahlia, and the uchsia, and the ten thousand occupants of the greenhouse, else we might draw a full chapter from these nassuming publications to please the lover of flowers, nd give new hints to such of our readers as delight in he cultivation of a taste, so in harmony with our indliest feelings, and so generally cherished by persons of refined and meliorated affections. Instead of he green-house, the hot-house and the herbarium, our uty lies in quite another direction—with the barn—he hay-field, and the granary; instead of talking arnedly of the caméllia and the tulip, we must be ontent with the humble subjects offered in the apple, he turnip and the wheat: instead of the tiny instrument used by the still more delicate hand of the c vator of flowers, we must be found looking afte plough, the grubbing-hoe, and the threshing-macl Yet our task, rude as it may be, is not without it terest, nor, as we trust, without high incentives usefulness. The flower garden and the green-hou and the wilderness of roses are indeed delightful; the multiply and minister to the enjoyments of social life, and give to leisure hours an employment which may enable us to forget the ruggedness of those of toil. But our walk is not among flowers, which have been beautifully represented as the poetry of nature;—it is in the corn-field and the meadow,—and our "conversation must be of bullocks;" yet we must confess we remember occasionally, with some degree of complacency, that "it is by these we live."

The quantity of rain and melted snow which fell during the Twelfth mo., (Dec.,) 1843, was ...... 4.041 in And the quantity which fell during each month of the year 1843, was as follows, viz:

months.	inches.
1st.	1.440
2nd.	2.540
3rd.	4.415
4th.	4.723
5th.	2.045
6th.	1.686
7th.	4.54
8th.	9.255
9th.	4.85
10th	3.220
11th	4.14
12th	4.04
Fell during the year 1843,	46.912

The quantity of rain and melted snow which h fallen each year, for 20 years.

years.	inches
1824	38.740
1825	29.570
1826	35.140
1827	38.50
1828	37.97
1829	41.85
1830	45.07
1831	43.940
1832	39.87
1833	48.
1834	34
1835	3
1836	
1837	
1838	
1839	
1840	
1841	
1842	
1843	
Amount in 20 years,	
Average annual fall for the last 20 years,	

Penn. Hospital, 1st *mo.* 1st, 1844.

ricultural Implement Manufactory,

96, Market street, two doors above Sixth street, and two doors below the Red Lion Hotel:

ere are manufactured and for sale, lower than can urchased elsewhere, Horse Powers and Threshing chines, Fanning Mills, Corn Shellers, Straw and Cutters, Horse Rakes, Ploughs, Harrows, Cultiva-, Seed Planters, Cheese Presses, Churns, Pumps, every kind of farming implement generally in use. o, Beach's Self-sharpening Plough and castings— Wiley's two-pointed do. Every description of imnent made to order, or repaired by experienced kmen, and warranted. Slater's Patent Corn Shelland Grinder. EDWIN CHANDLER,

gent for Agricultural Machines of every description.

OUDRETTE—a valuable manure—of the best qualprepared in Philadelphia, for sale at the office of Farmer's Cabinet, No. 50, N. Fourth street, or at manufactory, near the Penitentiary on Coates' et. Present price, $1 75 per barrel, containing bushels—$5 for three barrels—$15 for ten barrels, hirty cents a bushel. Orders from a distance, ening the cash, with cost of porterage, will be promptttended to, by carefully delivering the barrels on rd of such conveyance as may be designated. mers to the South, and in the interior, both of this te and New Jersey, are invited to try the article. as been used to great advantage as a top-dressing wheat in the spring. For corn in the hills, and for etables generally, there is perhaps nothing superior he Poudrette. Truck growers in New Jersey, and where, whose interest it is, to have their vegeta-, melons, &c., early in the market, will find this ure of great importance. The price will be adced in March. D. K. Minor.

☞ TO RENT—and possession given on the 1st of th month next, a small Farm near this city, which been occupied for some years past as a Milk Farm. ly at the office of the Farmers' Cabinet.

WHOLESALE & RETAIL SEED & IMPLEMENT WAREHOUSE.

Constantly for sale, Corn Shellers of every variety, for hand or horse power; Straw and Corn-stalk Cutters, of different patterns, from $5 to $30 each. Grain Fans, of various kinds, from $8 to $30 each;—Corn Crackers, Sausage Cutters, Sausage Stuffers, Apple Parers, Churns on a new plan, which are cheap and good;—Self-sharpening Premium Ploughs;—Subsoil Ploughs; Agricultural Furnaces; Cooking Stoves, &c., for sale low, by D. O. PROUTY,

No. 176, Market street, above Fifth, Philad.

☞ SHORT ADVERTISEMENTS, ☜

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. The money to be paid in advance.

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